# THE CAMPAIGN AGAINST CANCER: EDUCATIONAL, EXPERIMENTAL AND CLINICAL.

BY

WILLIAM SEAMAN BAINBRIDGE,
A. M., Sc. D., M. D.
Surgeon, New York Skin and Cancer Hospital;
Professor of Surgery, New York Polyclinic
Medical School and Hospital,
NEW YORK CITY.

REPRINT FROM
AMERICAN JOURNAL OF DERMATOLOGY,
VOL. XV., NO. 7.

ST. LOUIS:
THE PHILMAR PRESS.
1911.

# The Campaign Against Cancer: Educational, Experimental and Clinical:*

BY

WILLIAM SEAMAN BAINBRIDGE, A. M., Sc. D., M. D.

Surgeon, New York Skin and Cancer Hospital; Professor of Surgery, New York Polyclinic Medical School and Hospital,

NEW YORK CITY.

Many physicians of late years have come to realize fully the importance of a more thorough education of the general body of the profession with reference to cancer, and to believe that the public at large has a need for and a right to a certain amount of definite information along this line. Skilful surgeons in every country are devoting their best endeavor to the eradication of malignant neoplasms by surgical intervention. Here and there throughout the civilized world groups of earnest and capable men and women are engaged in the intricate and painstaking work of the laboratory study of cancer.

The campaign against cancer, therefore, is being waged today along certain definite lines, educational, experimental and clinical, all converging toward the point of preventing the disease by discovering the cause.

## EDUCATIONAL.

Is there a need for a campaign of education against cancer? We believe there is.

So long as the physician says to the female patient, particularly one of the so-called "cancer age," who has a small lump in the breast subject, perhaps, to irritation by the corset: "Leave it alone; it is nothing; quit thinking about it!" just so long is there a need for a campaign of education among physicians. So long, too, as the physician says to the male patient who has a small elevated birth-mark, so situated, that it is subject to irritation by the derby hat, perhaps, or by the suspender buckle: "Come to see me when you have something the matter with you; this is nothing but a birth-mark, how could it hurt you?" just so long is there a need for such a campaign of education. And as long as the patient, male or female, accepts the advice, just so long is there a need for a campaign of education among the laity.

Further: So long as many periodicals, secular and religious, publish, in glaring type, the misleading and vicious advertisements of men who may rightly be called cancer quacks, just so long is there a need for a campaign of education which extends not only into the medical college and the hospital operating room, but into the business office and the legislative hall, as well as into the home.

Still further: The general trend of the times is toward public enlightenment. This applies to medical matters as well as to other departments of knowledge, and we now hear laymen debating with a greater or less degree of intelligent insight subjects which only a few years ago were never discussed outside of the medical profession.

Gradually, as this search for knowledge concerning scientific matters has extended, one disease after another has come within its scope. The important and widespread educational work which has been accomplished with reference to tuberculosis is a matter of common knowledge. A similar, though less extensive and far-reaching campaign has recently been inaugurated with reference to venereal diseases, from which much good is to be hoped.

Coincidental with the general awakening of interest in other diseases there has come an increasing desire for knowledge concerning cancer. This has been expressed in a definite demand for enlightenment. "What *is* cancer?" "What causes it?" "Is it contagious?" "Is it inherited?" "Can it be prevented?" These and many other questions are asked, over and over, particularly of the surgeon, until he becomes imbued with the idea that there is a need of some kind of systematic education with reference to cancer for both physician and layman.

---

*Delivered in part at the Annual Clinical Lectures on Cancer, New York Skin and Cancer Hospital April 19 and 26, 1911.

Just what is the best method of conducting such a campaign is a mooted question. Because, perhaps, of the general uncertainty concerning the etiology of malignant disease, and a certain amount of uncertainty concerning its pathology, the medical profession has seemed loath to take a definite stand in the matter of educating the public concerning cancer. This is particularly true of America. Some have held back for reasons of professional ethics (a consideration which should pale into insignificance when measured by the standard of the broader ethics of one's duty to one's fellow man). Others have been deterred because of the danger, real or fancied, of creating a veritable cancer-phobia, and thus making the situation worse than it is.

The soundness of both of these arguments has been definitely tested in a few instances. In Germany, for example, Winter and von Duehrrsen, among others, have for a number of years carried on a campaign of education among women concerning cancer of the pelvic organs. They have sent out broadcast throughout Germany, circulars of information and instruction for women, and have printed in the secular press, at stated intervals, such information and instruction.

As a consequence of this form of enlightenment it is reported that the number of women who present themselves at the clinics of these surgeons, and presumably of others, while yet in the early and curable stages of cancer of the pelvic organs has increased year by year. This naturally leads to a decrease in the number of cases of advanced and incurable cancer among women.

Harvard Medical College, by means of lectures and the exhibition of charts, pictures, etc., open to laymen, has endeavored to arouse public interest in cancer.

A number of societies, in this country and abroad, have organized committees for the purpose of investigating cancer and the question of the promulgation of knowledge concerning it among physicians and laymen.

The American Medical Association, through its Public Health Education Committee, has inaugurated a valuable campaign of education which includes cancer. Public lectures have already been given in this connection in various localities, and work is being planned for a more extensive campaign.

In addition to this, many articles and books bearing directly upon the educational side of the question, and embracing more or less theoretical as well as practical information, have been published.

It must be admitted that such a campaign concerning a subject about which there is so much controversy has its disadvantages as well as its advantages. These result largely from the ill-advised selection of the subject matter promulgated. Not only is there danger of inculcating misconception in the lay mind by the discussion of the purely theoretical or the tentative experimental views concerning cancer, but many absolutely erroneous ideas are apt to be given forth by faddists who become so impressed with one particular phase of the many-sided problem that they see in this the solution of the whole problem.

Illustrations of the harmfulness of the promulgation of theoretical views with regard to cancer might be multiplied many times. In a previous communication* the author cited a number of such instances.

The method of obviating false and harmful impressions concerning cancer is plain. Let the medical profession, *within their own ranks,* thresh out the *unsettled* questions to whatever extent is necessary, but while this is being done among themselves let them take the public into their confidence in regard only to the *settled* questions. Theoretical teaching should be eliminated from the campaign of education as it applies to the layman, and attention should be concentrated upon such information as has a definite bearing upon the prevention of the disease on the one hand, and the early diagnosis and cure on the other.

### EXPERIMENTAL.

The exact anatomical study of cancer, by which investigators of a century or more ago endeavored to determine the relationship between cancerous and healthy tissue, and the histological and clinical observations of the last fifty years, have

---

*Transmissibility and Curability of Cancer.—*Boston Medical and Surgical Journal,* July 27, 1907.

pointed the way for the modern study of this disease. The abstract speculations of our medical forefathers have given way to the precise bio-chemical observations of the latter-day cancer research laboratory. Many of the older theories concerning the genesis and the mode of development of malignant neoplasms have been studied by means of accurate and painstaking experiments upon animals.

This new method of dealing with the question has developed various new lines of research, and, as a result of a process of evolution reaching back through the centuries, the modern cancer research laboratory has made its appearance as a definite entity in the scientific world. Thus in a number of centers throughout the civilized world there have been established institutions especially equipped for the prosecution of the experimental study of cancer. The various problems connected with this disease are being studied in an experimental manner in the research laboratory of the New York Skin and Cancer Hospital, at the Rockefeller Institute and a few other laboratories in this city; in the State Cancer Laboratory, at Buffalo; in the laboratory of the Harvard Cancer Commission; in the Imperial Cancer Research Fund Laboratories of London; in the London Cancer Hospital; in the Cancer Department of the Middlesex Hospital, London, and in other institutions of Great Britain; at the great Czerny Institute for the Experimental Study of Cancer, at Heidelberg, and in other German institutions; at the Pasteur Institute in Paris, and in many other centers in Europe.

In some of these institutions, notably the Imperial Cancer Research Fund Laboratories in London, the New York State Cancer Laboratory at Buffalo, the laboratory of the Harvard Cancer Commission, and others, the work is purely experimental, animals, of necessity, being the subjects employed. In others, notably the Czerny Institute for the Experimental Study of Cancer, the London Cancer Hospital, the Cancer Department of Middlesex Hospital, and the Cancer Department of the New York Skin and Cancer Hospital, experimental researches are being conducted in the laboratory coincidentally with the regular clinical work, and in so far as is possible the laboratory is utilized for the furtherance of the purely clinical phase of the work.

Many different lines of research have been carefully and scientifically followed, some to a negative and some to a positive conclusion; others are still being investigated. A few years ago a large part of the research world was looking for a parasite of one kind or another as the essential cause of cancer. With some notable exceptions, this line of inquiry has been left *in statu quo,* or abandoned, while attention has been centered upon the metabolic rather than the parasitic origin of cancer, and upon other promising phases of the problem. Coincidental with the search for a parasite have been conducted interesting experiments with reference to the contagiousness, infectiousness and transmissibility of cancer. The different problems connected with immunity; the influence of environment; the effect of various irritants, chemical and mechanical; the part played by diet, age, heredity and many other factors, are some of the numerous phases of the complex cancer problem which are being investigated in the experimental laboratories throughout the world.

Institutions in which the purely experimental side of the subject is studied have come to be looked upon as clearing-houses for information concerning the laboratory study of cancer, and through their periodical reports they have disseminated a wealth of valuable information. While the greater part of the information is directly concerned with the study of malignant disease in animals, by analogy it is applicable, in many instances, to cancer in man. For, as Bashford has said: "The solution of the problem of the disease in man is so far from being the rational starting-point that it is really the logical destination and center toward which all the channels of research must converge."

The work, therefore, of these experimental clearing-houses is followed up, more or less fully, in the other class of institutions mentioned, namely, those in which the experimental work is combined with the purely clinical side of the question. However important the study of cancer in animals may be, and undoubtedly is, as an aid to the study of cancer in man, the fact remains that a given theory as to the cause of cancer or a given method of treatment once it is established must be demonstrated on the human subject before its value is definitely determined. It has come to be realized, therefore, that laboratory experimentation alone will not solve the complex problem of cancer in man any more than the purely clinical study of the disease has done in the past, but that success is more apt to come from a correllation of the forces of the laboratory, the operating room and the hospital ward. An institution, therefore, which unites within itself certain of the more practical features of laboratory experimentation and clinical work in operating room and hospital ward, bears a distinct and perhaps the most important relation to the study of cancer. With the experimental clearing-house to furnish a mass of data on the various phases of the work which legitimately come within its domain, and with the clinical clearing-house to choose from this data such parts as may be tested in a practical way by the correllated work of laboratory and hospital, it would seem that the solution of the problem must more speedily come.

Clearing-houses, such as the Heidelberg and London institutions named, as the New York Skin and Cancer Hospital is, and as the St. Louis Cancer Hospital promises to be, have a wide field of usefulness. With trained workers in the different fields of research, not only is the laboratory study of cancer prosecuted, but it is aimed that each individual case, by being carefully and thoroughly investigated, shall contribute its part to the sum-total of knowledge concerning the disease.

No inconsequent part of the work of such a clearing-house, therefore, consists in the skilful and accurate taking of the history of each individual, and of the correllation in available form of the data thus obtained.

The New York Skin and Cancer Hospital is devoting particular attention to this phase of the work. For many months we have been keeping a special cancer history of each case, in addition to the regular hospital history. These special histories are taken by members of our research staff who are especially trained for the work, and are followed up in detail, insofar as is possible, by the investigation, during the patient's stay in the hospital, of every point which can be of help in tracing the initiation and progress of the disease in the given case.

In addition to the accurate taking of the history of the patient, and of the patient's family so far as this may possibly influence the cancer, the record of each case is supplemented, by wax casts, photographs, colored drawings, etc., representing the condition before, during and after treatment, according to circumstances.

If the patient is sufficiently improved to leave the hospital, it is especially requested that he or she return upon the slightest evidence of a recurrence or of an extension of the disease, in the less advanced cases, and to keep us informed of conditions from time to time in cases which are too far advanced for more than palliative treatment. In this way the subsequent history of many cases is learned.

In those cases which are given a special line of treatment, surgical or otherwise, a still greater effort is made to keep in touch with the patients throughout their subsequent history. Such patients are traced from tenement to tenement, from city to city, and, by means of personal visits from some member of our research staff, by letters, etc., they are kept under surveillance for months, sometimes years, and in many cases, of course, till the end of life.

The data thus obtained concerning a large number of cases of every form of cancer, properly correllated and placed in tangible form, must be of immense value in the study of cancer pending the discovery of the essential cause of the disease and a definite method of prevention or cure. For, important as is the purely experimental investigation of cancer, the most important feature of our work today is the *actual treatment of actual cases.*

The treatment, therefore, of cancer offers a legitimate field for experimental work, along surgical or other lines, of which the careful taking and following up of the history of each case forms an important part.

Examples of legitimate experimental work of a surgical nature may be found in arterial ligation, in the carotid region, as practised by Dawbarn; in pelvic ligation, as practised by Kelly, Pryor, the author, and others; in the working out of the permeation theory of the spread of cancer in the individual, by Handley; in Handley's lymphangioplasty; in Wertheim's extensive dissection in cancer of the pelvic organs; and in neurectomy for the relief of pressure pain in advanced and otherwise inoperable cases, as practised by the author and others.

In addition to the legitimate experimentation, in surgical procedure, carried on in the operating room, there is also a line of legitimate experimentation to be pursued at the bedside of the patient, namely, the testing of various non-surgical methods of treatment. Under this category may be placed the various sera, vaccines, toxins, cancer extracts, etc.; physiological products, such as enzymes (trypsin and amylopsin), thyriod extract, etc. Under this head, also. come the various so-called "cures" of one kind or another, some seemingly founded on scientific fact, others more or less theoretical, yet having something, apparently, in their favor. All such methods which furnish a reasonable hope of doing definite good with an assurance of doing no positive harm should go through the clinical clearing-house to be approved or disapproved, by actual clinical test, in a series of suitable cases.

Certain physical agents, likewise, such as radium, and the various newer methods of application of electrical treatmeent, should be tested in one or more of our clinical clearing-houses. Such tests come under the head of legitimate clinical experimentation.

### CLINICAL.

The prevention of cancer by the eradication of known predisposing causes, or at least causes which, from long and varied experience, have come to be accepted as known, forms a most important part of the clinical campaign against the disease.

Certain predisposing elements in the production of cancer are now pretty generally accepted as having greater of less etiologic influence. Among these are race, sex, heredity, general nutrition, local nutrition, chronic irritation, repeated acute trauma, chronic inflammation, cicatricial tissue—scars, burns, etc.—and benign tumors—warts, moles, nevi, etc.

Various other factors are considered by different students of the cancer problem to bear some relationship to cancer incidence. Among these may be mentioned climate, soil, occupation and habits of life. In addition to these, certain pathological states have been associated by different investigators with cancer. Notable among these conditions are tuberculosis, syphilis and diabetes.

It is not within the scope of this contribution to discuss the relative merits of the various supposed predisposing factors in the production of cancer, nor yet to consider them all from the clinical point of view. Certain of them, however, seem to be sufficiently well established as having a definite bearing upon the incidence of the disease to be considered an important feature of the educational, experimental and clinical campaign. Notable among these contributing causes are chronic irritation, chronic inflammation, cicatrices and benign tumors.

In a large proportion of cases, unfortunately, the surgeon is the court of last appeal, while the general practitioner, the dermatologist, the gynecologist, or the specialist in whatever field, is consulted first. We say unfortunately for the simple reason that the surgeon, who sees so much of the ultimate end of the disease, is more likely to be impressed with the importance of making the early diagnosis and instituting the proper treatment, than is the general practitioner or the specialist in other lines, who sees the beginning or pre-cancerous condition in perhaps the majority of instances. The responsibility for the prevention and early diagnosis of cancer, therefore, must rest more heavily upon the general practitioner or specialist in other lines, than upon the surgeon.

Believing this to be true, we have sought to demonstrate, by presenting certain phases of the clinical side of the question, the need of an educational campaign against cancer, and to emphasize the important part to be played in such a campaign by the general body of the medical profession. The most telling arguments, after all, are actual cases of cancer. From these practical deductions for both patient and physician may be drawn. By studying cases, more than by discussing theoretical questions, will be furthered the pevention, early diagnosis and cure of cancer, which is the prime motive of a campaign of education concerning the disease. We have therefore selected for this purpose a series of cases, or, rather, a series of classes of cases, the counterparts of which could doubtless be multiplied many times in the experience of every practitioner of medicine.

In our annual clinical lectures at the New

York Skin and Cancer Hospital, in our surgical clinics, in published articles and elsewhere, we have endeavored to emphasize the importance of keeping a careful watch upon the small lumps and bumps, the elevated nevi, the scars which are subjected to irritation, and the thousand and one seemingly inconsequent conditions which, *in a favorable host, and under favorable conditions,* may and so often do eventuate in one of the most distressing of all human ailments—incurable cancer.

The cases which we herewith present illustrate again the same idea, which cannot be too often and too forcefully emphasized.

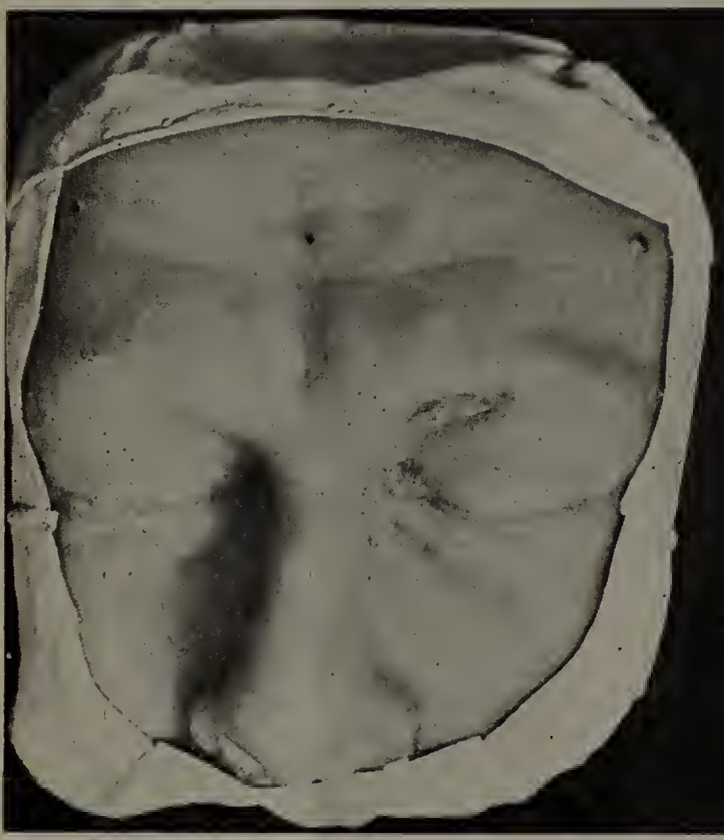

Fig. 1-a. G. R. Fibroma of left temporal region; small flat angioma, centre of forehead; pigmented mole, right temporal region. (Cast.)

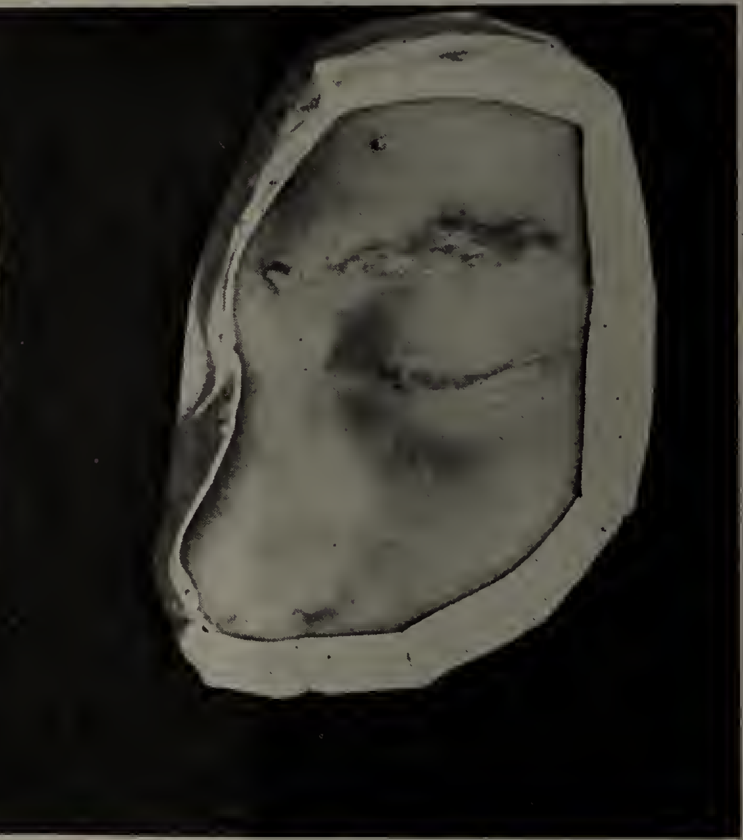

Fig. 1-b. H. C. Elevated angioma above left eye. (Cast.)

For purposes of convenience we have grouped them largely according to site-incidence rather than to histologic characteristics.

Insofar as has been possible, we have selected cases which represent the apparently insignificant beginning as well as the direful eventuation of the condition. In many instances, for obvious reasons, it has been impossible to represent the beginning and the end in the same case. We have, therefore, endeavored to make the series complete by showing similar conditions, at a given stage of the disease, in different individuals. In one or two cases both the early and the late stages of the disease have appeared in the same individual coincidentally, but in different localities.

Because visible and palpable, we have selected cases of cancer in which the initial manifestation was epithelial, involving some portion of the skin or mucous membrane.

It is to be emphasized that many of the cases present conditions which, in themselves, are of no special interest, becoming important only in proportion to their liability to eventuate in something more serious.

In each case of cancer the clinical diagnosis was verified by microscopic examination. Unnecessary details are omitted for the sake of brevity.

## CASE REPORTS.

### *Group I.—Face and Orbit.*

Case I.—G. R., male, age 42, physician. In the left temporal region is a small fibroma; in the center of the forehead is a small capillary angioma; on the right side of the forehead is a small pigmented spot. The angioma is not elevated above the surface, and therefore is not of as much significance, as regards possible serious results, as is that in Case II. Fig. 1-a shows location of growths.

Even flat angiomata, however, when subjected to constant irritation, may undergo malignant change.

The angioma in this case was removed by a confrere, without a scar, by means of mercurial caustic.

Case II.—H. C., male, aged 28, physician. In contradistinction to Case I, this patient has a small, elevated angioma on the forehead, as shown in Fig. 1-b. Subjected to chronic irritation or acute injury, this is liable to undergo malignant change.

Case III.—H. S., male, aged 18 months. Shortly after birth a small elevated angioma appeared near the inner canthus of the left eye. It grew rapidly, projecting over and completely obstructing the eye. It was treated by the physician consulted by means of caustic applications. Following this there was ulceration, which did not heal, and the growth continued to increase in size. The condition when the child was first seen by us is shown in Fig. 2.

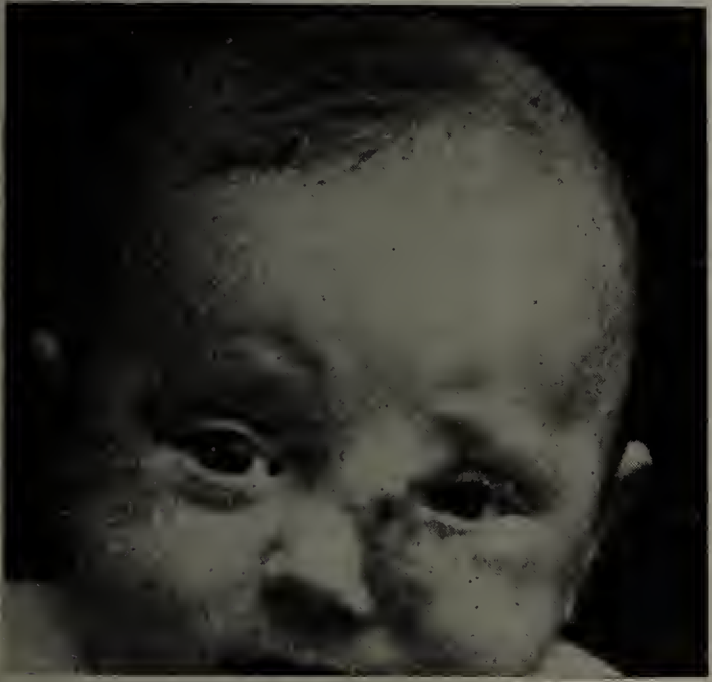

Fig. 2. H. S. Angio-sarcoma of face before operation.

The angiomatous mass was removed *in toto*. Serious hemorrhage was obviated by the use of silk threads, so placed as to partition off the angiomatous mass. Into each partition was injected a small quantity of carbolic acid. This caused complete coagulation, *en masse*, of the blood within the tumor, after which the threads were withdrawn. When contraction of the growth had taken place the entire mass was easily removed. Pathological examination showed distinct angio-sarcoma.

The child's condition, six years later, is shown in Fig. 3. He is perfectly well, with practically no deformity.

Case IV.—P. C., male, aged 36. Very small recurrent epithelioma just above upper lip, left side. First noted in 1903. In 1906 was treated by a dermatologist for three months with X-ray, twice weekly, without appreciable benefit. The growth was then curetted and a salve applied, with apparent cure. Less than one year later there was an active recurrence in the same locality, as shown in Fig. 4, photographic copy of wax cast taken just before complete excision of recurrent growth. No deformity resulted, there being only an almost invisible mark where the growth was located, although free excision was made, with a margin of healthy tissue.

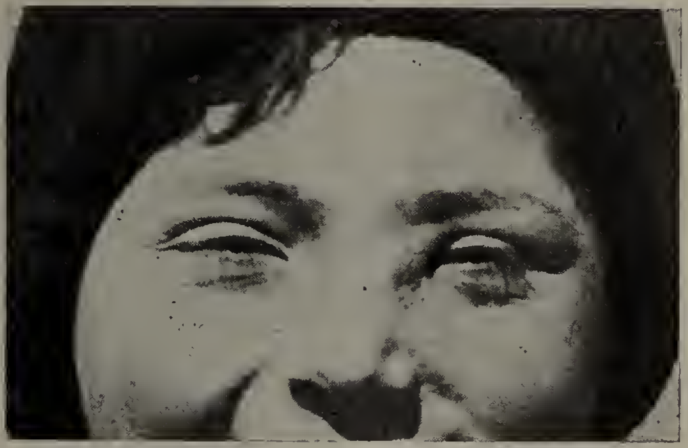

Fig. 3. H. S. Six years later.

Microscopic examination of the excised tissue revealed markedly malignant epithelioma.

This case illustrates early malignancy, early recurrence, and early radical removal. Inasmuch as the growth was purely local, of epithelial type, and situated above the mouth, in the area considered to be of a probable mild malignancy, removal of the glands was not insisted upon, though advised. After a lapse of two years there is no sign of recurrence.

Case V.—C. L. V., male, aged 72. Carcinoma of left cheek, very small, and seemingly of no consequence, as shown in Fig. 5. Thoroughly excised and examined under the microscope, this apparently inconsequent lump proved to be carcinoma of a malignant type, which grows rapidly, and which frequently gives rise to metastasis. After more than a year there are no signs of further return.

Case VI.—K. K., female, aged 73. Advanced epithelioma of right cheek; early epithelioma of left cheek, corresponding exactly in site and early appearance to that of the other side. Fig. 6 shows the advanced condition when the patient presented herself to us. Fig. 7 shows the early stage of the disease, the exact counterpart of the former in its incipiency. Excision of both growths March 3, 1910. Patient made good recovery from the operation, the parts healed well, but she died from a stroke of paralysis, April 27, 1910.

This case illustrates the possibility of extensive development of a malignant growth above the mouth, with no metastasis below. The growth which appeared first was irritated by the spectacle frame, and further by the patient constantly scratching it. For three months the physician whom she consulted used a "pencil," presumably some form of caustic, on the growth each day, giving the patient a salve to apply at home. This treatment apparently increased markedly the rapidity of extension, until, when she entered the hospital, three years after it began, the ulcerating mass on the cheek was 2½ by 3 inches in diameter and elevated ½-inch above the surrounding surface.

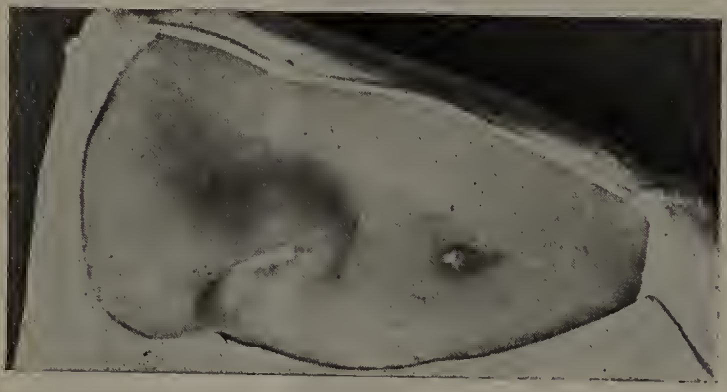

Fig. 4. P. C. Epithelioma of face. (Cast.)

Case VII.—M. O'C., female, aged 73. Epithelioma of left cheek, of twelve years' duration, originating upon the site of a burn from a match. A white scar resulted from the burn. Six years later, when repeatedly asked if the scar was due to smallpox, and when told that if she would make it bleed it would disappear, she began to pick at and scratch it until it bled. As the scab would form she would lift it off, not allowing the place to heal naturally. As a result of this an ulcer formed, which grew to such proportions that she sought medical treatment. From 1905 to 1909, with an interim of a month or so during these four years, she received X-ray treatment twice a week. The growth continued to extend. One year before admission to the hospital two other small growths appeared near the first.

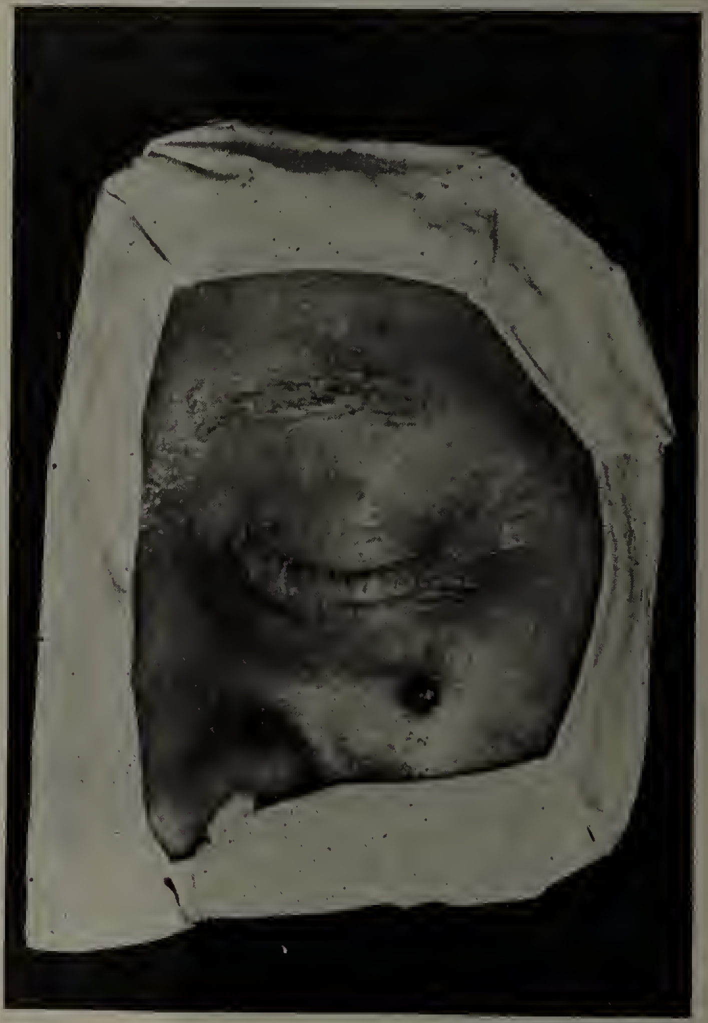

Fig. 5. C. L. V. Carcinoma of cheek. (Cast.)

As may be judged from Fig. 8, the cancer, when we first saw it, was irremovable, and palliative operation in a woman of this age, with such extensive involvement, could hardly be expected to accomplish much. An ascitic fluid was employed for a time, after the method of Hodenpyl, but without effect. Radio-gelatin was also used for a short time, but the patient objected to the reaction caused by these injections and the treatment was discontinued before having been given a fair test in this case.

Thorough removal of the growth in the beginning would undoubtedly have resulted in eradication of the disease; or, better still, removal of the scar left by the burn, which was subjected to constant irritation, would have *prevented* the cancer.

The case further illustrates the local nature of so many malignant growths above the mouth. We have here a terrific involvement, of many years' duration, with absolutely no metastasis in any other region.

The patient has lately returned to the hospital begging for help. She will be treated with cancer extract, with the hope of giving her some relief.

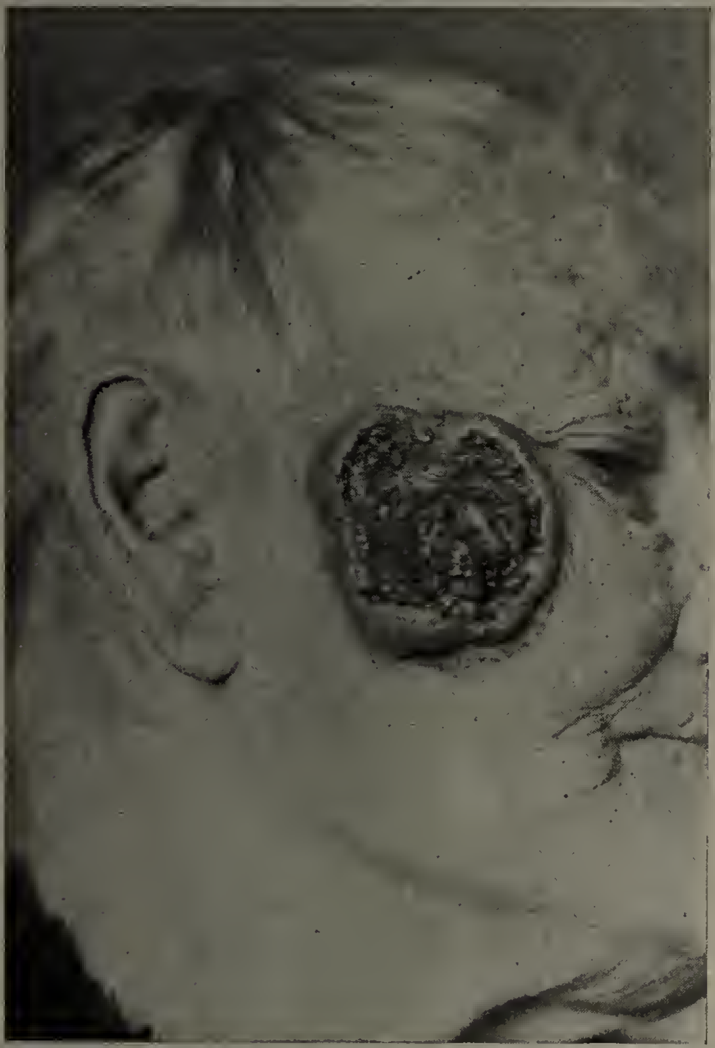

Fig. 6. K. K. Advanced epithelioma of right cheek.

Case VIII.—J. R. P., male, aged 72. Epithelioma of frontal region, with metastasis in parotid region, in cervical glands, and in lung. The upper nodule, shown in Fig. 9, is a recurrence in the location of the primary growth. This first appeared as a small nodule in the skin, left side of forehead. It was cauterized by caustic applications, after which it healed. Soon afterward another nodule appeared lower down, nearer the inner canthus of the eye. Shortly after the appearance of this, recurrence took place in the scar of the caustic treatment of the first. Metastasis then appeared in the parotid region, as shown in the picture, which represents the patient's condition when he first consulted us. The picture is a reproduction of a wax cast taken at the time. Examination revealed involvement of the cervical glands, and operation proved that there was an extension of the metastatic process to the lung. Palliative treatment

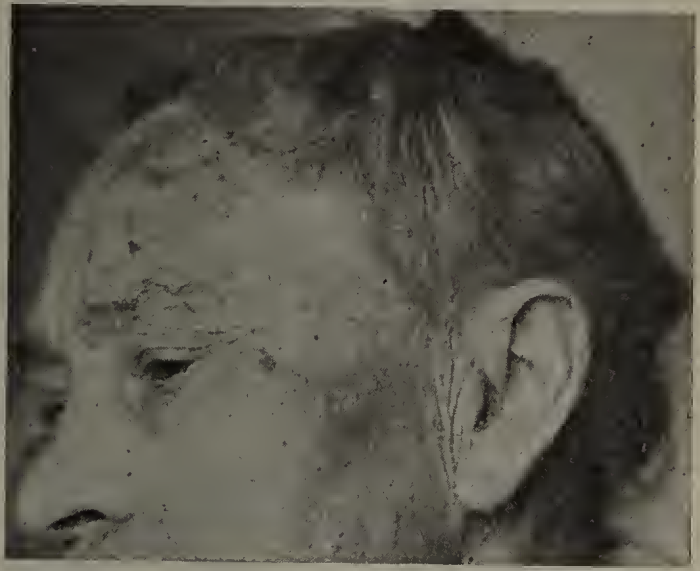

Fig. 7. K. K. Early epithelioma of left cheek.

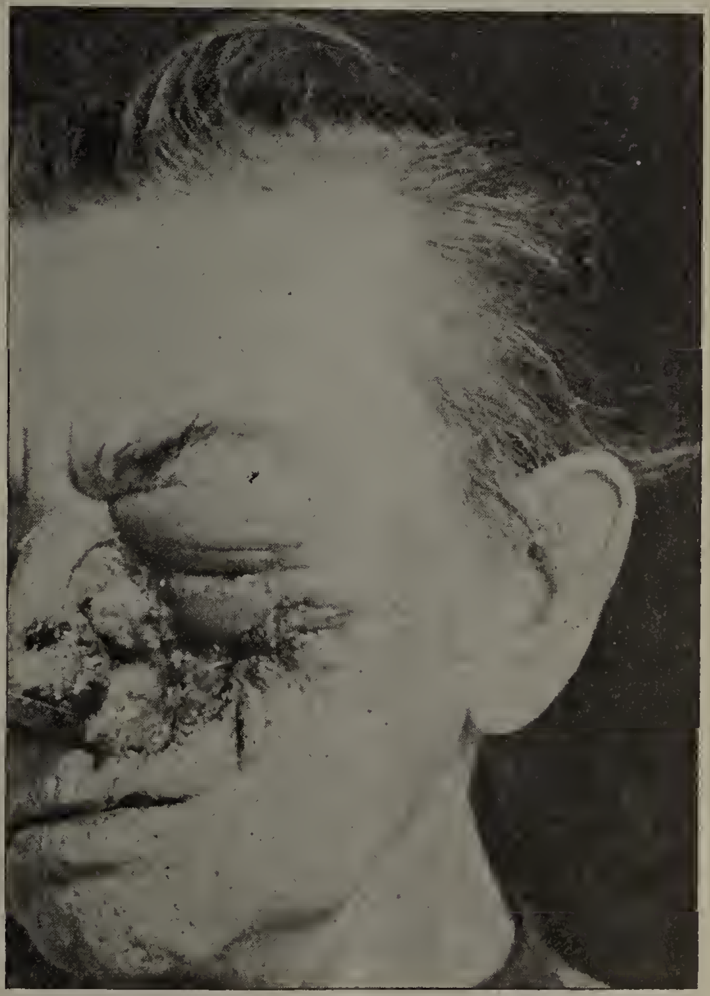

Fig. 8. M. O. C. Advanced epithelioma of face.

was all that was possible. Patient died from internal metastasis June 9, 1908.

We have in this case a history of early and terrific recurrence and metastasis (within seven months of the appearance of the primary growth upon the forehead), arising from a tiny spot, in the region above the mouth, a growth which ordinarily would presumably be easily removable by the various dermatological measures often employed. Radical removal by surgical means might have been followed by recurrence, inasmuch as some cases of great malignancy seem to recur, no matter what is done, but certainly the chances of such a contingency would have been greatly lessened by a clean-cut excision of the primary growth when first noticed, with a safe margin of healthy tissue all around. The chances of recurrence in such a case would be still further lessened if, in accordance with Handley's permeation theory of the spread of cancer in the individual,* a larger area of fascia is removed than of skin. Even in small malignant growths, and in actively growing benign tumors, the same rule should apply —more fascia than overlying skin should be removed. While caustics may result in complete removal, without scar, of some superficial growths of small size, the knife is preferable, even in these, and certainly in growths of greater extent and depth, for the following reasons:

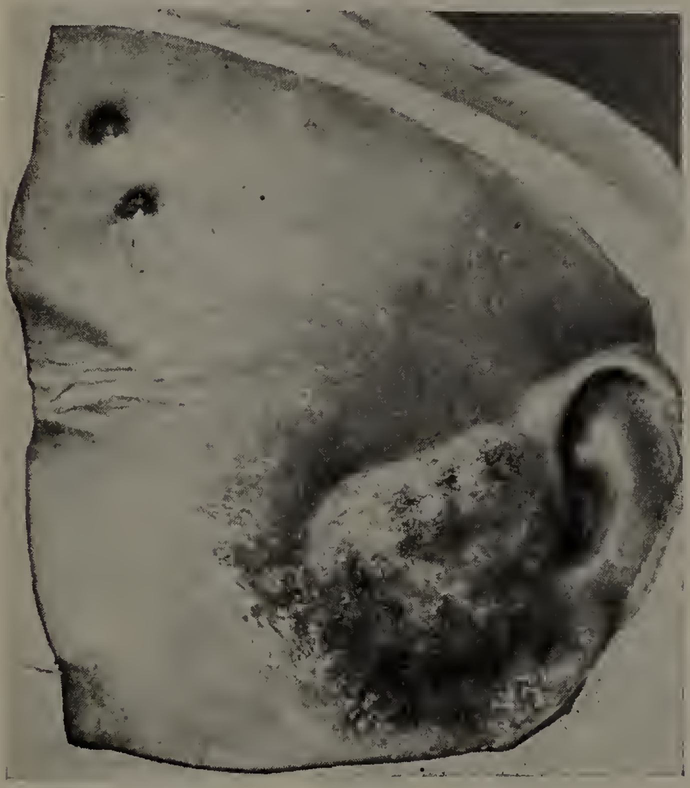

Fig. 9. J. R. P. Epithelioma of forehead with metastasis in parotid region. (Cast.)

1. The operator can definitely determine the extent of removal of tissue, whereas this cannot always be controlled with caustics.
2. The knife affords the more rapid means of complete removal.
3. According to the theory just cited, there is a distinct advantage in removing more subcutaneous tissue than skin.
4. Deep and extensive removal of the true skin is very apt to result in scar tissue, which invites irritation and consequent malignant degeneration.

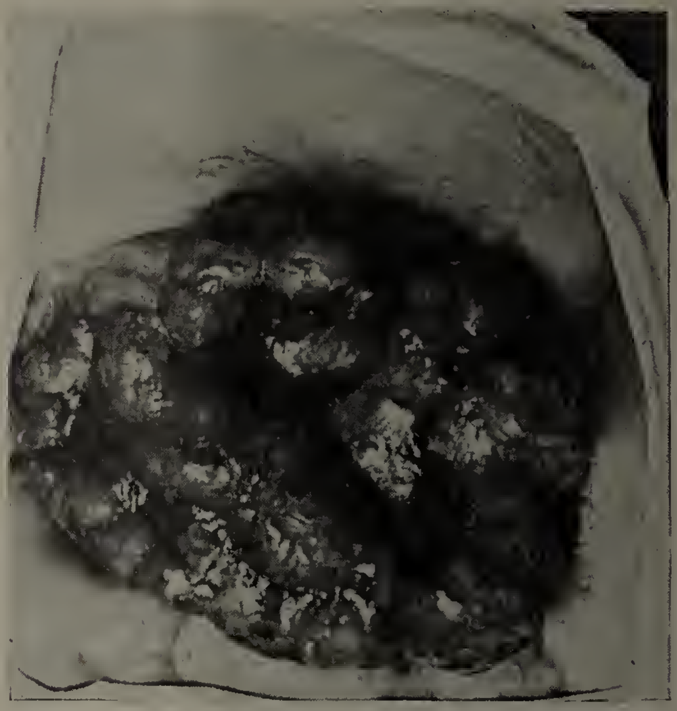

Fig. 10. B. G. Epithelioma, orbital region and face. (Cast.)

Case IX.—Female, aged 46. Epithelioma of orbit and adjacent structures, involving eyeball and extending to the dura mater. The condition, which was of eight years' duration, began, according to the history, as a small ulcer on the lower lid, following a local diphtheric infection during an attack of diphtheria. It developed slowly at first, and very fast for about one year before admission to the hospital. No treatment whatever was received, except with washes, salves, etc., during the eight years previous to admission.

In April, 1909, the entire growth was removed by us, including the contents of the orbit, together with its inner wall, down to the dura mater. The wound was packed with gauze and allowed to granulate preparatory to doing a plastic operation. A subsequent slight recurrence necessitated a second operation, when an area of the dura, about the size of a ten-cent piece, which was involved, was removed, exposing the brain. The cavity was again packed. For a time the cerebro-spinal fluid came from the wound. Finally, however, the area granulated over. Plastic operation was performed at later date.

---

*Handley, W. Sampson.—Cancer of the Breast and its Operative Treatment, 1906.

Fig. 10 shows the condition upon admission to the hospital, being a photographic copy of the wax cast taken at the time. Fig. 11 shows the cavity after excision of the growth and before the plastic operation. The lines of incision converging toward the ear may be seen, showing the flap which was turned back for the purpose of removing the parotid gland, and the lymphatics and fascia lying along the ramus of the inferior maxilla, with the glands in the superior carotid triangle. Fig. 12 shows the condition after the plastic operation, the flaps for which were taken from the forehead and neck. Fig. 13 gives a good idea of how the patient looks today. With the hair brought down over the forehead the scar from the flap does not show at all, and with the colored spectacle, specially constructed, over the affected side, the deformity is not so apparent as might be imagined from the depth of the excision of the diseased tissue.

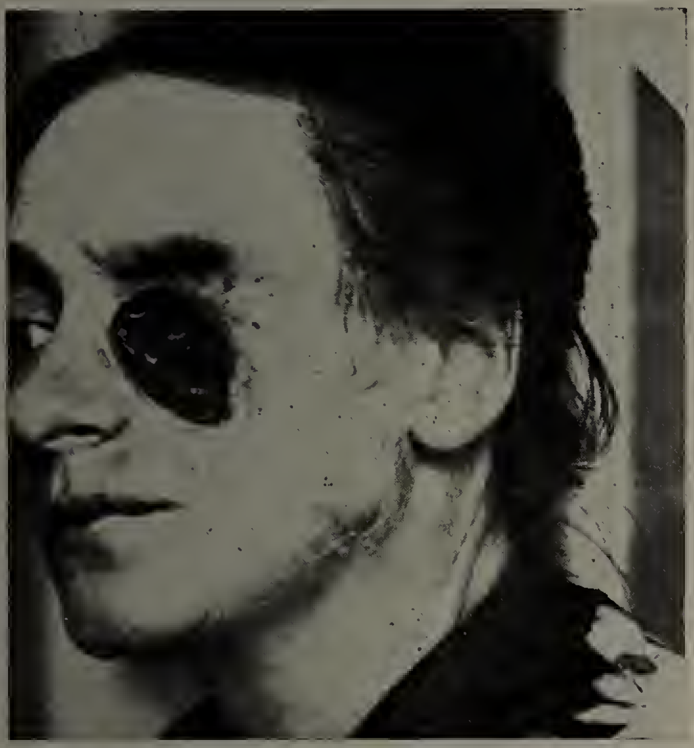

Fig. 11. B. G. Granulating cavity after excision of epithelioma but before plastic operation.

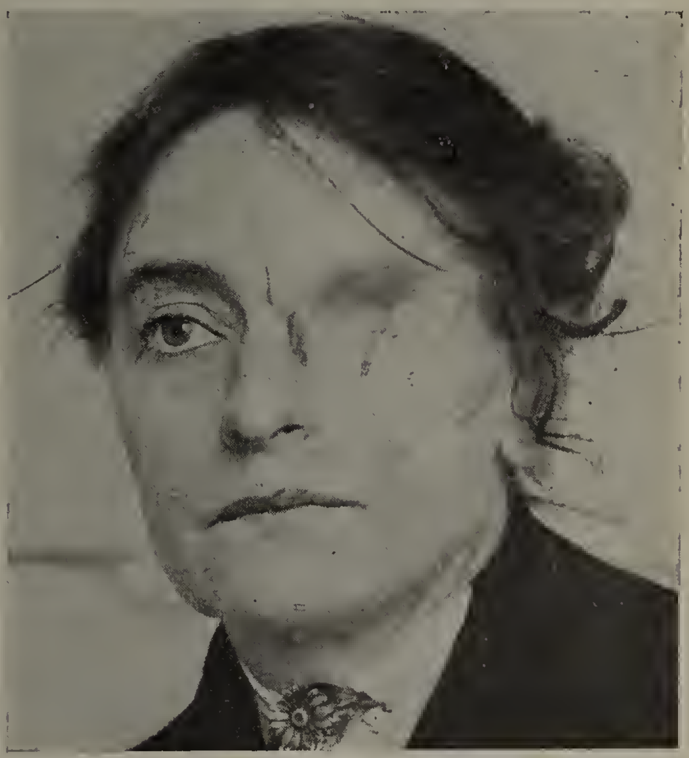

Fig. 12. B. G. Two years after plastic operation.

There are no signs of recurrence at the present time, two years after operation. In a letter to us, written April 17, 1911, the patient says she is "enjoying perfect health."

### *Group II.—Nose.*

Case X.—H. B., male, aged 74. Epithelioma of the tip of nose and left side of cheek, just below the eye. Fig. 14 shows the large and disfiguring growth on the tip of the nose, extending about one and a half inches from the nose. This began five years before admission, as a small wart-like excrescence, easily removable. Six months later the growth under the eye, also shown in Fig. 14, developed from a similar beginning, and was also easily eradicable. The patient, in this case as in the preceding, neglected to seek medical advice until the conditions reached the proportions shown in the illustration.

Complete and thorough excision of the epitheliomata was resorted to by us, followed by a plastic operation, the result of which is shown in Fig. 15.

The patient promised to return to us upon the slightest evidence of a recurrence, and inasmuch as we have heard nothing from him for more than two years we take it that he has had no further trouble. He has moved out of the city. Address unknown.

Case XI.—J. S. R., male, aged 69. Epithelioma of nose, face, orbit and superior maxilla, which began in 1888 as a tiny nodule on the side of the nose. Instead of being eradicated completely by thorough excision, this was treated with caustics, curretting, and later with X-ray, despite all of which treatment it recurred again and again, until it reached the proportions shown in Fig. 16, when he was first seen by us.

In February, 1910, an extensive operation was performed by us as a palliative measure. The entire contents of the orbit, the bony orbit, the nasal bones and the upper part of the superior maxilla of the left side, were removed and the cavity was packed with a mild iodoform gauze, benzoin, shellac and nosophen powder.

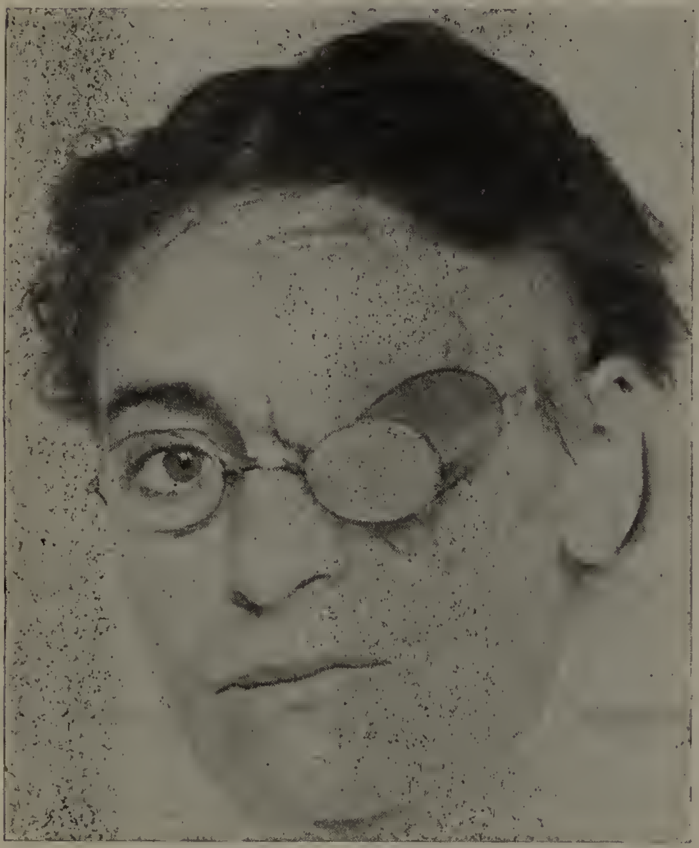

Fig. 13. B. G. Condition today with specially constructed glass over left eye.

Pain was greatly relieved, the fetor and discharge were lessened, and the consequent discomfort to the patient and his family ameliorated. The patient was still alive in November, 1910, but was gradually growing weaker.

### *Group III.—Lip.*

A common source of irritation, which is presumably a factor in the production of cancer of the lip, is smoking. The pipe, cigar and cigarette, being always held in the same position, by mechanical irritation, by burning, or perhaps by radio-activity, seems to initiate the cell proliferation which eventuates in cancer. Persons who feel that they must smoke should know the importance of varying the position of the pipe, cigar or cigarette.

Not all cancers of the lip, of course, arise from smoking, nor do all burns and irritation arising from smoking result in cancer. The cases of this group, in sequence, illustrate the possible simple beginning and direful ending of cancer of the lip.

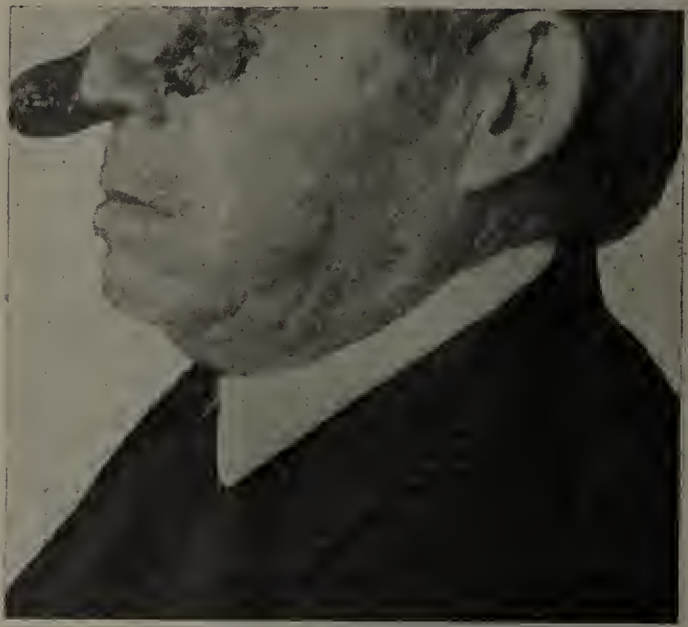

Fig. 14. H. B. Epithelioma of nose and face before operation.

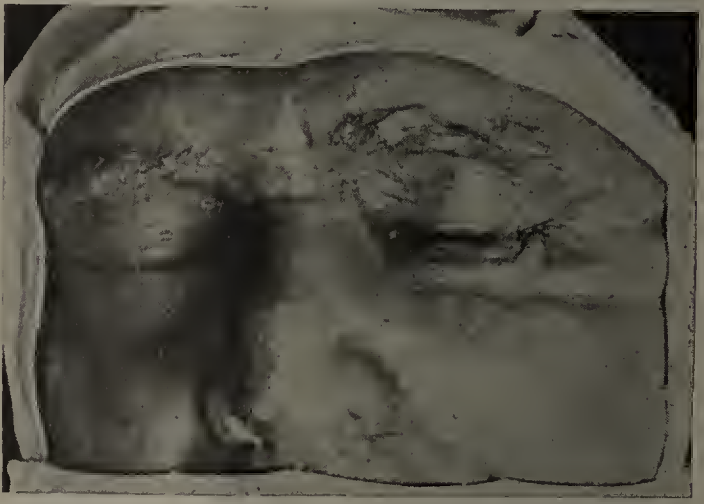

Fig. 15. H. B. After operation. (Cast.)

Case XII.—A. M., male, aged 22. The lower lip is the seat of a burn (Fig. 17) resulting from the constant smoking of cigarettes and the holding of the cigarette always in the same position. This is a typical illustration of what may be called the pre-cancerous stage. This burn was constantly subjected to irritation, so that healing was impossible, and had the patient not been stopped from smoking and the burn properly treated, this would very likely have eventuated in malignancy, with a history similar to some of those given below.

Case XIII.—M. F. P., male, aged 50. Epithelioma of lower lip. This case is an interesting illustration of what thorough surgery will accomplish in a person evidently predisposed to the development of cancer. Twenty-seven years ago a small growth appeared on the lip, a little to one side of that which is shown in Fig. 18, taken from the wax cast of the case when we first saw him. This primary growth was thoroughly removed, together with the glands of the neck, by the late Dr. Andrew J. McCosh. For all these years the patient has remained perfectly free from cancer. The small growth shown in the picture cannot be called a recurrence. Reasoning from analogy, the patient will be free from cancer, unless another new neoplasm makes its appearance.

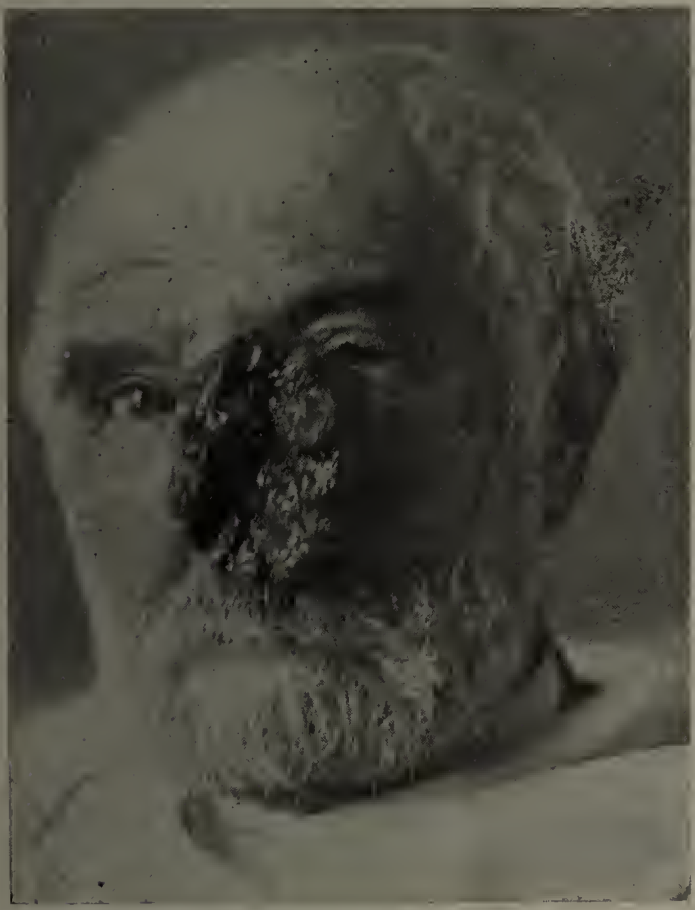

Fig. 16. J. S. R. Advanced epithelioma of nose involving orbit and superior maxilla.

Case XIV.—T. W., male, aged 48. Epithelioma of the face and neck, recurrent from very small growth on the lower lip. The primary growth was removed by the surgeon who was consulted in the early stage, three years before admission to the New York Skin and Cancer Hospital, but the cervical glands were not removed. This case is the antithesis of Case XIII. In a very short time after the removal of the growth there was a tremendous involvement of the glands of the neck, as shown in Fig. 19, with internal metastasis. When admitted to the hospital the patient was in such an advanced stage of the disease that no operative interference was warrantable. He died about a week after admission of metastasis, the original site of the growth being perfectly healthy.

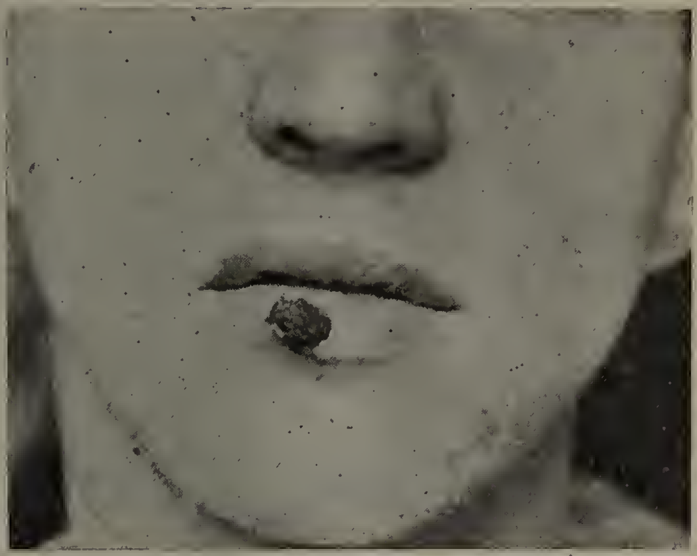

Fig. 17. A. M. Ulcer of the lip caused by burn from excessive cigarette smoking.

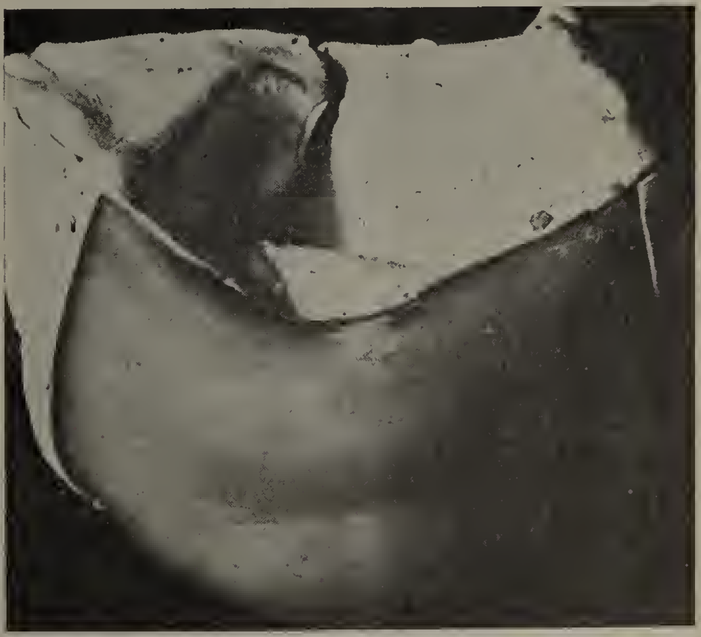

Fig. 18. M. F. P. Early epithelioma of lower lip near scar of old epithelioma removed 27 years ago. (Cast.)

This case emphasizes admirably the importance of removing the glands of the neck in every case of cancer of the lower part of the face and mouth, unless there are some definitely contra-indicative circumstances, such as extreme age or a lowered state of vitality which would render such an operation absolutely hazardous.

Case XV.—G. W., male, aged 93. Epithelioma of lower lip, with extension to the contiguous structures. This growth was the same microscopically as that in Case XIV, and had a similarly small beeginning, but it was clinically different, being local in nature, with no metastases in the glands or elsewhere. The condition was of seven years' duration. Fig. 20 shows the condition upon admission to the hospital in February, 1911. The case was inoperable, both on account of the extensiveness of the involvement and because of the patient's age and poor condition. He died one month later.

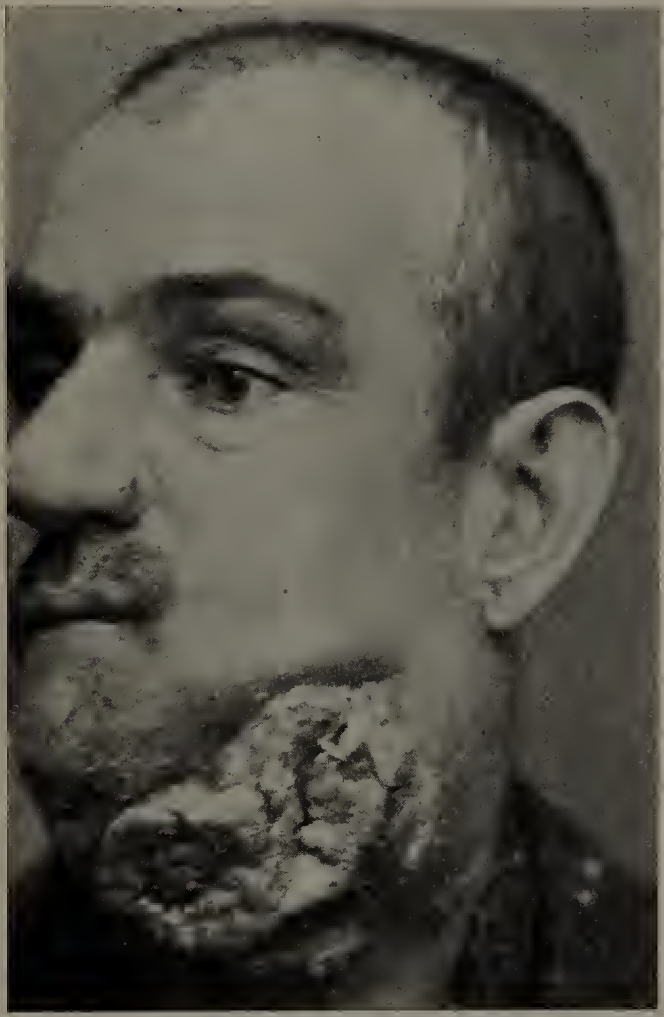

Fig. 19. T. W. Irremovable epithelioma of neck recurrent from small epithelioma of lower lip.

Case XVI.—R. R., female, aged 5 years. Sarcoma of face, extending from the lip as the primary seat. First seen at the New York City Children's Hospitals and Schools, Randall's Island, December 2, 1909. One year before admission to the hospital the patient looked as shown in Fig. 21-a, a photograph furnished by the family. At this time she first noticed a small swelling upon the upper lip, said to look like a birthmark. This continued to develop, and the growth was removed at Mt. Sinai Hospital. Following this the patient was treated at the New York Hospital for Ruptured and Crippled for eight months with the mixed toxins of streptococcus erysipelatosus and bacillus prodigiosus (Coley's fluid), without benefit. The patient was subsequently removed to Randall's Island. Fig. 21-b shows the condition at the time of admission to the last institution, seven and a half months after the disease was first noticed.

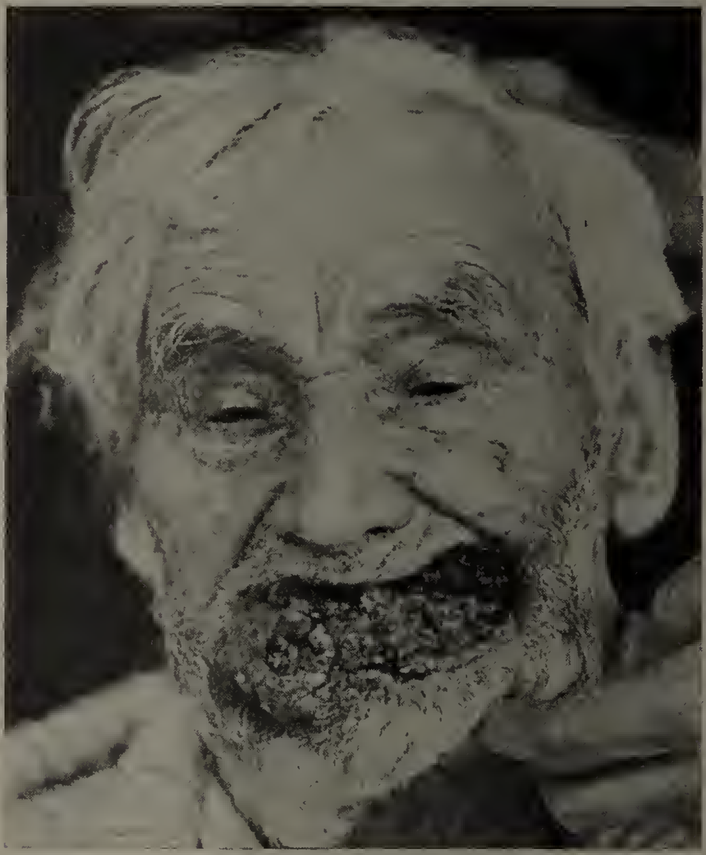

Fig. 20. G. W. Extensive epithelioma of lower lip, slow growth, no metastasis.

According to the history obtained from the mother, the family physician, who was consulted before admission to any hospital, incised the growth on the lip, first from the outside, then from the inside, and irrigated at frequent intervals. The rapid development of the growth to a fatal issue within one year serves to emphasize the danger of cutting into malignant growth. In view of the generally accepted belief in the autoinfectivity of cancer* it is reasonable to suppose that the growth was hastened in this case by the incision of the tumor.

The patient received only palliative treatment at Randall's Island, where she died shortly after admission.

### *Group IV.—Tongue.*

Cancer of the tongue and buccal cavity is often noted in persons whose decayed and jagged teeth cause abrasions and chronic irritation of these parts. Malignant epulis and other malignant neoplasms of the alveolar process are often seen in persons with ill-fitting crown-and-bridge work or dental plates, or in those whose teeth are neglected and in bad condition. In such cases the dentist may play an important part in the prevention of cancer, and should co-operate with the medical profession in the campaign of education with regard to such matters.

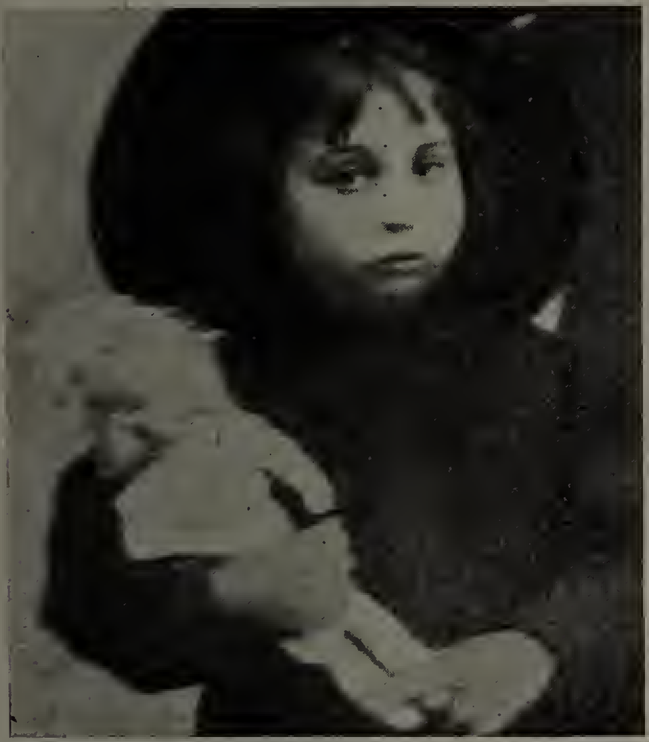

Fig. 21-a. R. R. Patient one year before death from sarcoma.

The cases of Group IV emphasize forcefully the importance of the prevention and early diagnosis and the institution of radical treatment before it is too late.

Case XVII.—W. S., male, aged 61. Ulcer of tongue at tip and on superior surface, with several patches of leucoplakia—precancerous stage. One year before patient was first seen by us the condition began as a crack on the dorsal surface, about the center, as shown in Fig. 22-a, photographic reproduction of wax cast.

Just such conditions as this, neglected, eventuate in many cases in malignancy, with loss of all or part of the tongue and, perhaps, of life. Removal of the affected area, with a margin of healthy tissue, recently performed, will doubtless eliminate the probability of further danger from this source. Fig. 22-b shows the condition after operation.

Case XVIII.—J. B. C., male, aged 52. Two small spots of inflammation on the dorsum of the tongue, near the edge, one of nine months' duration, the other of three, are shown in Fig. 23. There is no history of smoking in this case, but of irritation from a bad tooth. These areas of inflammation had begun to assume the appearance of benign neoplasm, the next stage of which is malignancy. Excision of both areas.

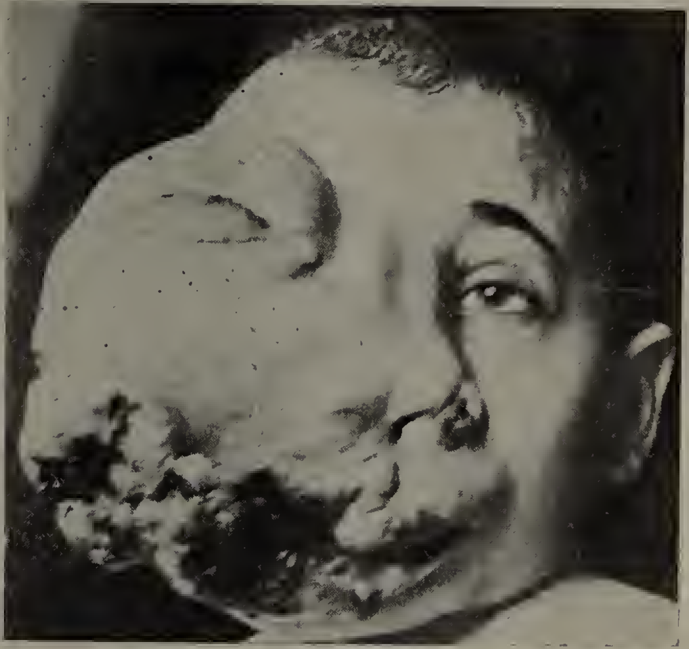

Fig. 21-b. R. R. Condition on admission to hospital.

Case XIX.—L. J. R., male, aged 41. Epithelioma of tip of tongue, early stage, as shown in Fig. 24, photographic reproduction of water-color drawing of exact condition. The small nodule, together with a wedge-shaped section of healthy tissue surrounding it, one inch long, with apex toward base of tongue, removed from median line of tongue. Careful microscopic examination was made, not only of the

---

*Bainbridge.—Metastases Following Incision of a Sarcoma.—*New York Polyclinic Journal,* January, 1908.

nodule itself, but of sections taken along the healthy tissue. Microscopic examination of the nodule verified the clinical diagnosis. No cancer cells were found in the remainder of the wedge-shaped section of tissue, until near the very apex of the wedge was reached. There a nest of suspicious cells was found, and a day later a longer angle was made by the removal of another small section at the apex of the wedge-shaped incision.

Early and radical removal in this case has been followed by freedom from recurrence for four years.

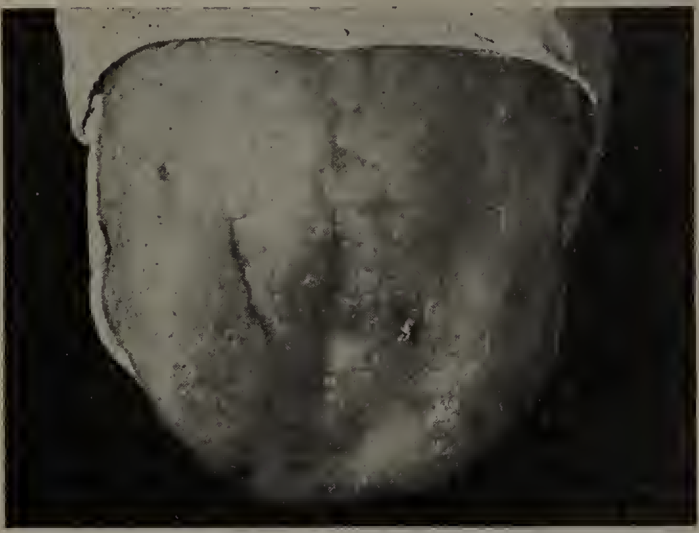

Fig. 22-a. W. S. Ulcer of the tongue at tip and on superior surface, with leucoplakia.

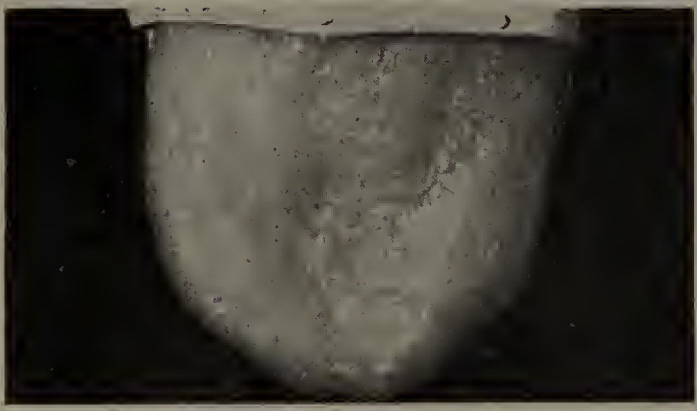

Fig. 22-b. W. S. After treatment. (Cast.)

Case XX.—E. S., male, aged 42. Carcinoma of tongue, advanced stage. Absolutely negative history regarding lues. Patient has been an excessive smoker, always holding the cigar on the right side of the mouth. A number of years previous to consulting us he had first noticed a small sore on the dorsum of the tongue, half an inch from the right side and one and a half inches back. This would come and go, and was treated by diverse methods—nitrate of silver, anti-syphilitic treatment (a positive diagnosis of syphilis having been made by the physician then in charge), X-ray, mixed treatment, etc. The growth was cut into by a dermatologist for the purpose of taking a section for microscopic study, and the report rendered that it was non-malignant. After going from one physician to another without benefit the patient consulted Dr. L. Duncan Bulkley, by whom he was referred to us. Fig. 25, photographic reproduction of water-coloring drawing of the exact condition, shows the tongue at this time. The mouth was in a very fetid condition and the glands of the right side of the neck were involved. The disease was too far advanced for reasonable hope of perfect cure, with no

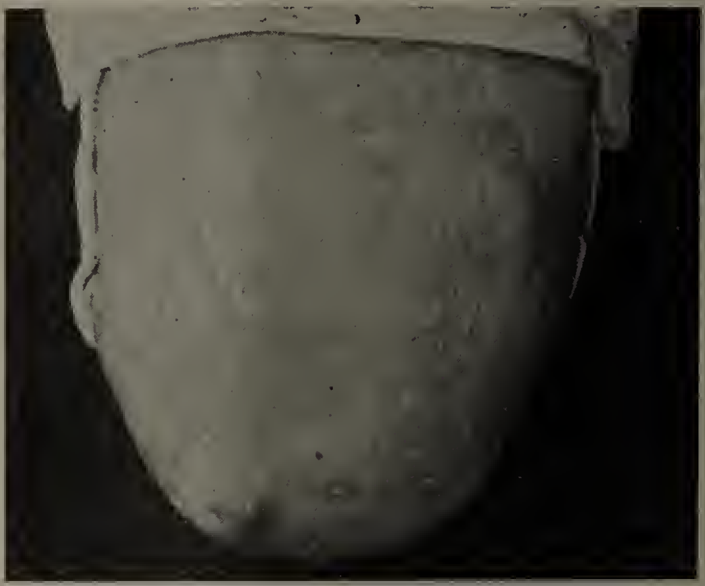

Fig. 23. J. B. C. Two small spots of inflammation on dorsum of tongue near edge and tip. (Cast.)

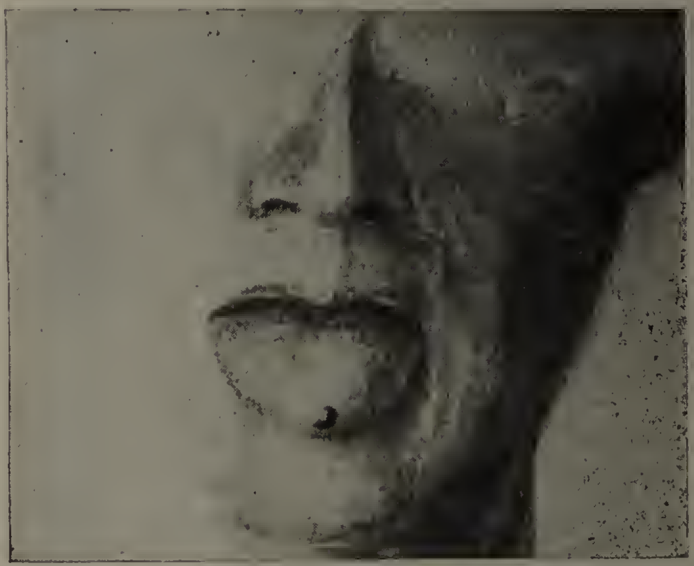

Fig. 24. L. J. R. Epithelioma of tip of tongue early stage (water-color sketch).

recurrence, but not too advanced for operative procedure with the hope of relieving suffering and prolonging life.

The involved glands were removed and at a subsequent operation the tongue was completely excised. The patient gained in flesh and strength and was able to attend to his business for months. Recurrence finally took place in the neck, the patient was placed on the Enzyme Treatment (Case No. 76), and died one year after he was first seen by us.

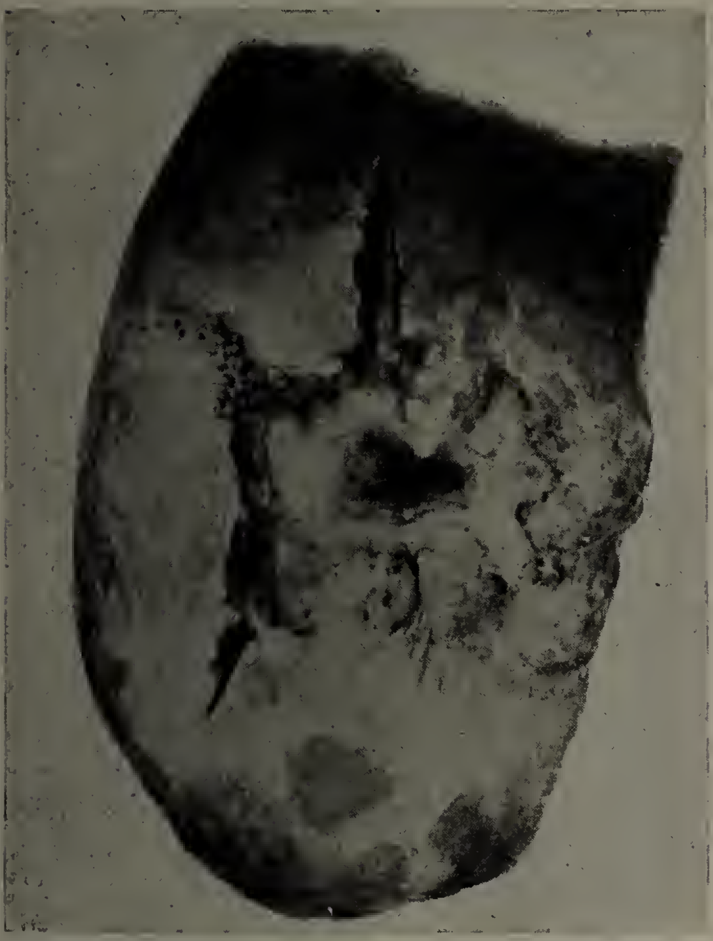

Fig. 25. E. S. Advanced carcinoma of tongue (water-color sketch).

An early correct diagnosis and the institution of the proper treatment in this case would have put an effectual stop to the malignant process, as it did in Case XIX.

*Group V.—Ear.*

The ear, by which we mean the auricle, is not a very common site for cancer, and yet in this locality, as well as elsewhere, apparently insignificant conditions may result in terrific involvement.

Case XXI.—F. F., female, aged 50. Epithelioma of auricle, superimposed upon eczema; early stage. Chronic eczema coming and going for a number of years, was irritated by scratching, until finally epithelioma developed upon the same site, as shown in Fig. 26. This was excised freely, the area being covered with a flap taken from behind the ear. After a lapse of three years there is no evidence of recurrence and no visible scar.

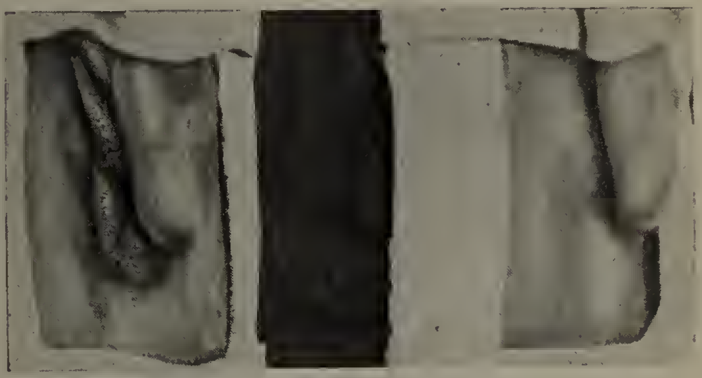

Fig. 26-a. Fig. 26-b.

Fig. 26-a. F. F. Beginning epithelioma on eczematous base behind ear. (Cast.)

Fig. 26-b. F. F. Condition three years later. (Cast.)

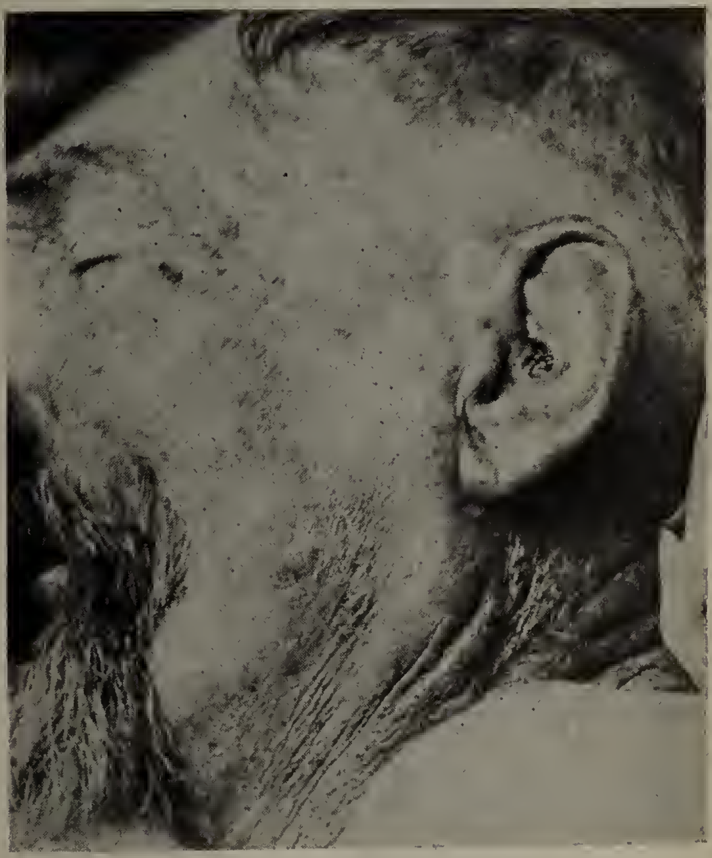

Fig. 27. V. M. W. Epithelioma of ear.

Case XXII.—V. M. W., male, aged 58. Epithelioma of ear, inside concha. Advanced, but removable. Condition began as a small nodule, first noticed about three months before he consulted us. This was excised, but early recurrence followed. X-ray treatment was then instituted and continued for five weeks, several times a week, but proved no check to the development of the growth. His physician then told him to go to the country for a vacation in order to build up his general health, so that the local condition would yield more readily to the X-ray treatment. The patient then came to New York and consulted us.

Fig. 27 shows the condition at the time we first saw him.

The entire auricle, middle ear and part of the mastoid process were involved. All the diseased tissue, including the drum membrane, periosteum of the bones enclosing the external auditory canal, and part of the mastoid process, removed, the glands below the ear being extirpated first. Convalescence was somewhat prolonged by the existence of otitis media, but was eventually perfect, and the patient has remained well for more than two years, which have elapsed since the operation. Fig. 28 shows the new external auditory meatus. Fig. 29 shows the appearance of the patient, with hair worn long.

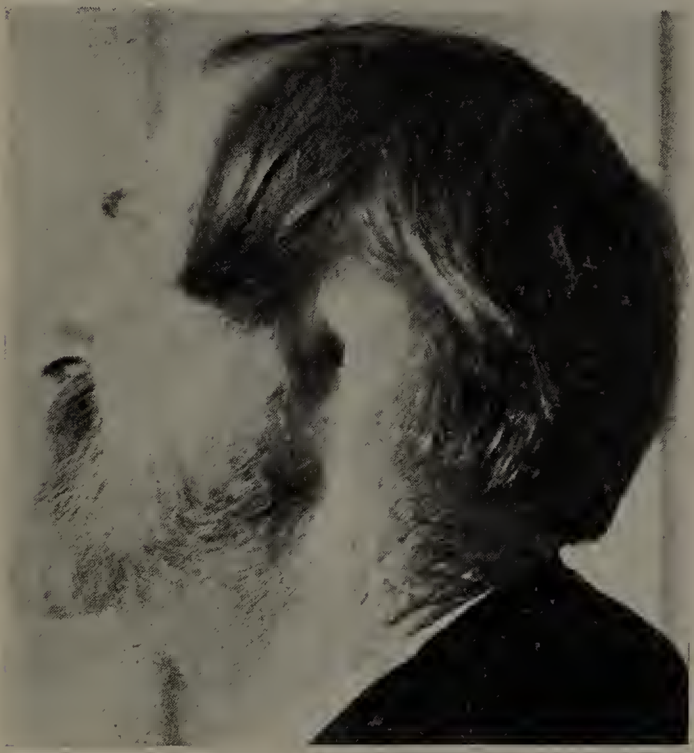

Fig. 28. V. M. W. After operation. New auditory meatus exposed.

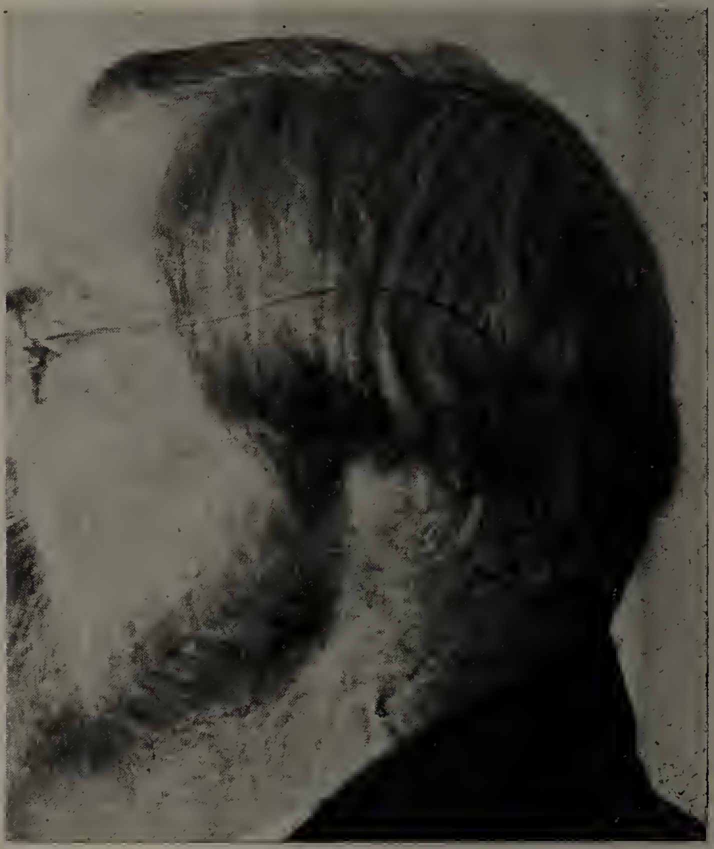

Fig. 29. V. M. W. Appearance today with hair worn long.

Case XXIII.—B. H., male, aged 93. Epithelioma of right auricle, of ten years' duration. The ulcerating growth involved the entire auricle and contiguous post-auricular area, as shown in Fig. 30. This extensive and very painful condition had its beginning in a small pimple at the masto-auricular junction. The patient constantly picked and irritated the growth until it underwent malignant change. For six years no medical aid was sought, then the physician consulted employed X-ray treatment for about one year without permanent benefit. Radium was systematically used by another physician for about two months, again without benefit, and with so much pain that it was abandoned. When first seen by us the involvement was so extensive that operation in so old a patient was considered futile. He was put on the Enzyme Treatment (Case 51), but after three months he insisted upon discontinuance of the injections because of the pain which they caused. Died December, 1909.

Case XXIV.—C. S., male, aged 56. Epithelioma of the left ear, extensive and advanced. Nine years before consultation the patient was burned upon the ear with a hot cinder. Before this had entirely healed he received a blow upon the ear, following which there developed the growth which eventuated in the condition shown in Fig. 31. A salve was used upon the ear by the first physician consulted. The treatment was employed for ten months, during which time the growth steadily progressed. The auricle was then partly removed, which doubtless involved the cutting into of the cancerous tissue. At any rate, this did not eradicate the trouble, and one year later the entire auricle was removed. Recurrence took place after an interim of a year, and the physician then consulted employed a caustic paste. Despite all this treatment the growth continued until when first seen by us the enormous involvement shown in the picture was found. Upon operation this proved to be very deep, involving the entire mastoid process, parotid gland, part of the parietal bone, facial nerve and the overlying soft tissue. The structures involved were removed practically *in toto,* though it was not thought possible to remove all of the disease. The dura was exposed for an area two and a half inches in diameter. The extensive wound was packed and allowed to granulate.

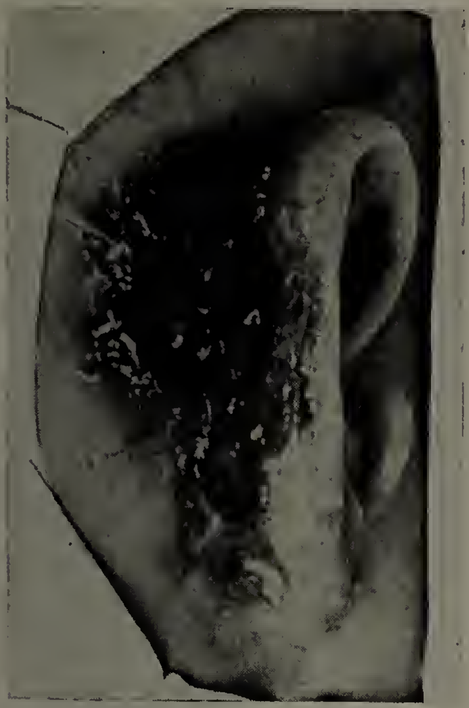

Fig. 30. B. H. Epithelioma of right auricle and post-auricular region. (Cast.)

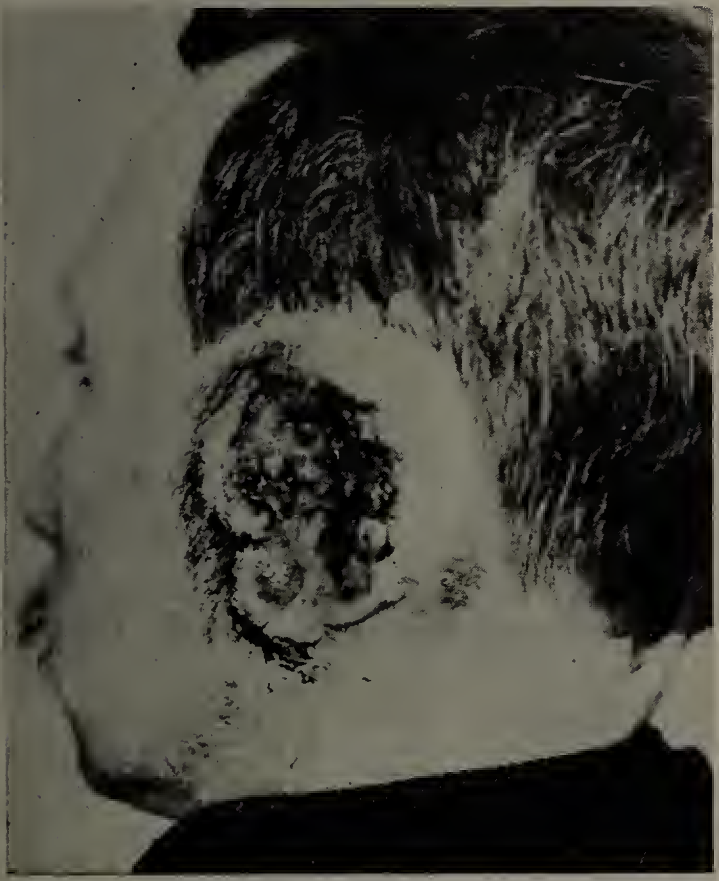

Fig. 31. C. S. Epithelioma of left ear, extensive and advanced; condition when first seen.

At the present time, after more than a year, there is a small nodule of recurrence at the upper and one at the lower part of the scar area, insignificant in size and causing no symptoms. This will be removed in a few days. The condition today is shown in Fig. 32. Fig. 33 shows the slight facial paralysis for so extensive an operation .

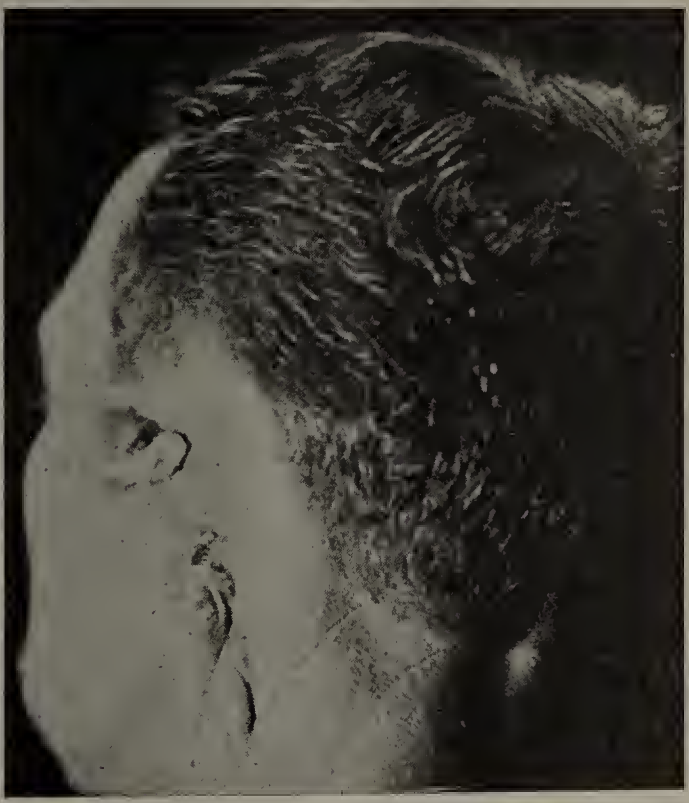

Fig. 32. C. S. After operation.

### *Group VI.—Miscellaneous.*

In the preceding groups of cases we have shown the apparently insignificant conditions affecting the head which, when neglected or improperly treated, develop into disfiguring and perhaps fatal cancer. Any other part of the body is liable to similar involvement, as is shown in the cases of *Group VI.*

Case XXV.—G. S., female, aged 18 months. Nevus on shoulder precancerous;

angio-sarcoma of forearm, early stage. The nevus on the shoulder, which is shown in Fig. 34, was elevated above the surrounding skin surface and represents the precancerous stage of the angio-sarcoma of the forearm, shown in Fig. 35. The latter had exactly the same beginning as the former, but developed to the proportions shown before its removal. The presumption is that the nevus on the shoulder would have run the same course had it been removed before malignant degeneration began. After an interim of three years there has been no return of either growth. Either one neglected would doubtless have had the same ultimate history as the similar growth in the next case.

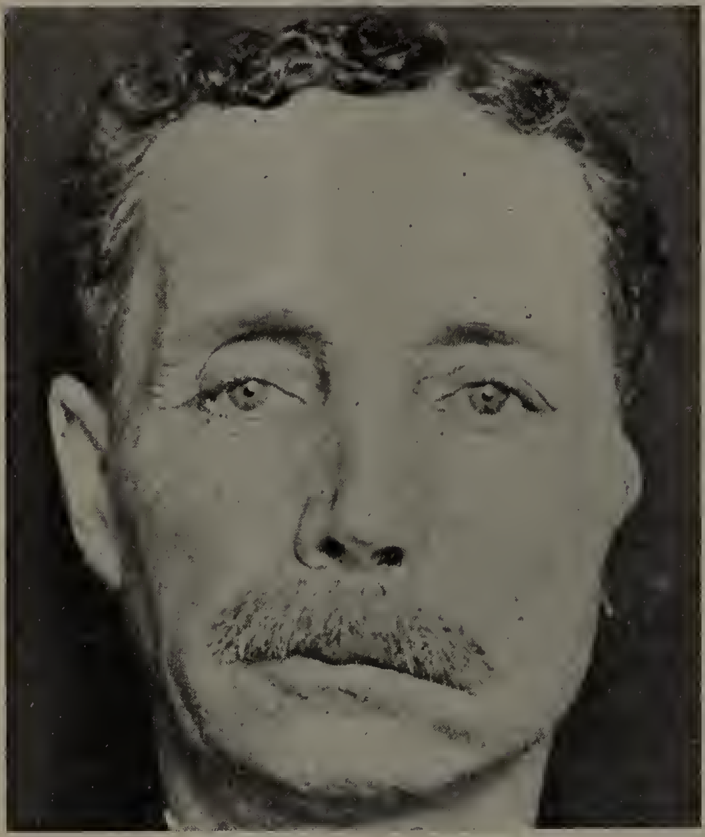

Fig. 33. C. S. Showing slight facial paralysis for so extensive an operation.

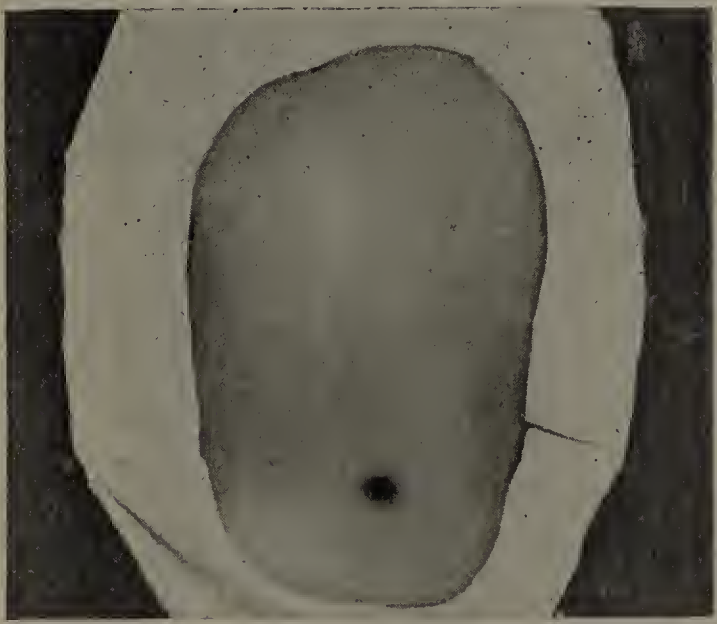

Fig. 34. G. S. Angio-sarcoma of shoulder. (Cast.)

Case XXVI.—A. W., male, aged 55. Spindle-celled sarcoma of right shoulder, advanced stage. Fig. 36 shows the condition at the time the patient was first seen. This developed from a small elevated angioma, situated in the same relative position as the nevus on the shoulder in the preceding case. As a school boy the patient noticed this little birth-mark, which was situated so that his suspender buckle rubbed over it, and constantly irritated it. This, in addition to a number of injuries, seemed to initiate malignant degeneration, and by the time he was fifteen years of age there was a tumor at the site the size of a hazel-nut. Removal at that time, with a safe margin of healthy tissue, would in all probability have resulted in complete cure. This was not done, however, until later, when the growth had assumed much larger proportions. A conservative operation was then performed by the surgeon consulted, but in spite of this, recurrence soon followed.

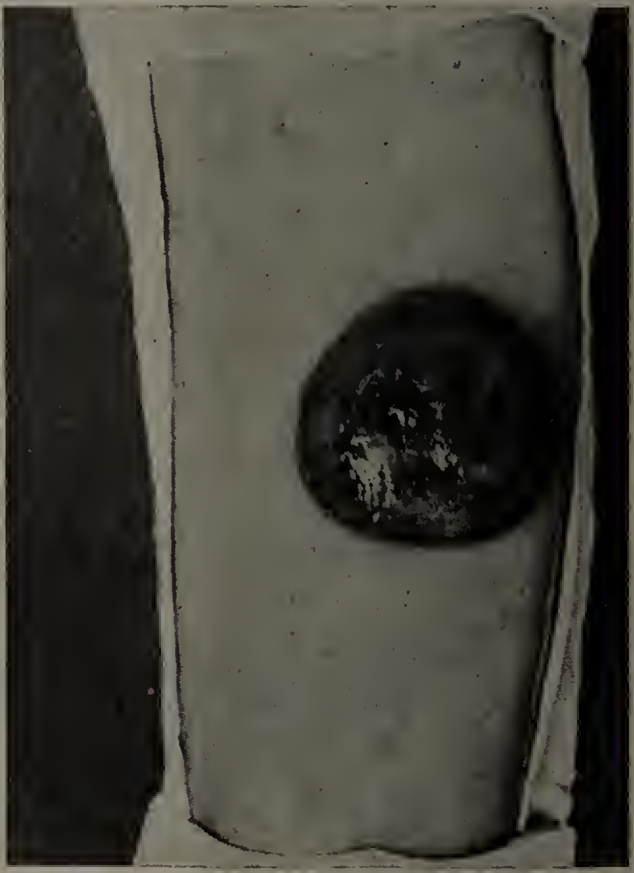

Fig. 35. G. S. Angio-sarcoma of forearm. (Cast.)

the neoplasms developed rapidly, and when the patient was first seen by us the deep structures in the neck, extending down between the main trunks of the brachial plexus were involved. The enormous mass, with its deep extensions, was completely extirpated in January, 1908. The patient remained apparently well for several months after this operation, but finally died of internal metastasis September, 1909.

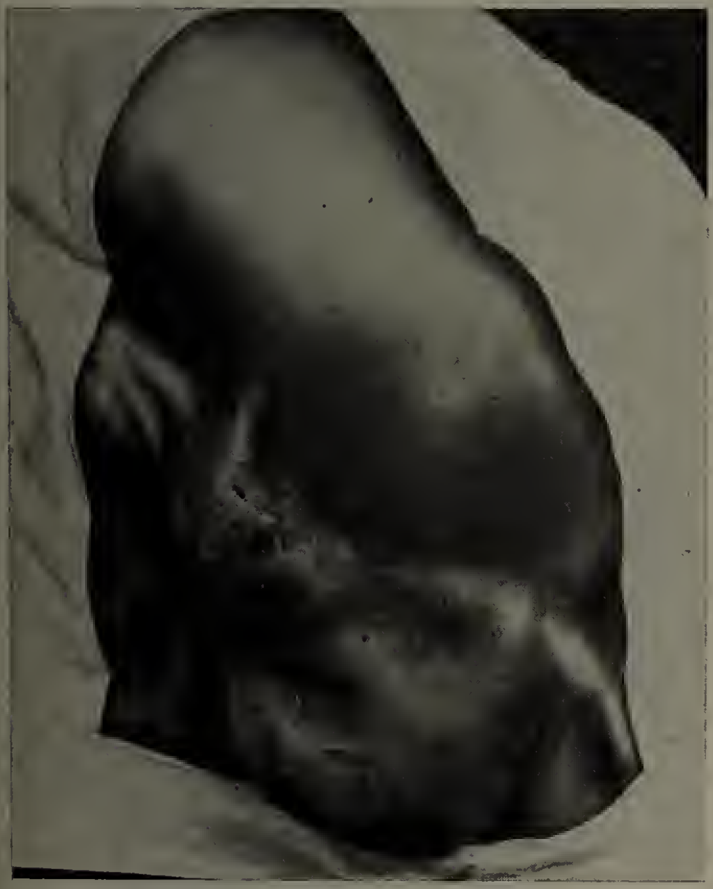

Fig. 36. A. W. Sarcoma of right shoulder. (Cast.)

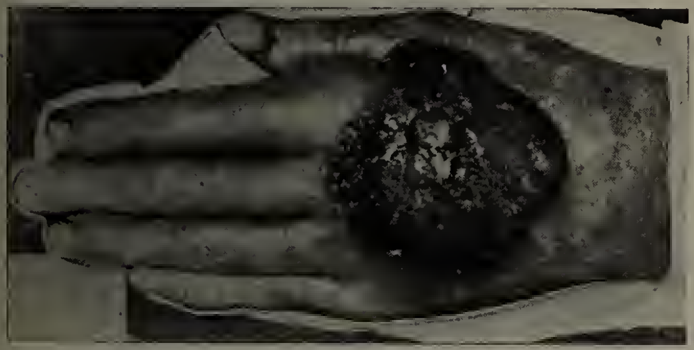

Fig. 37. A. F. L. Epithelioma of hand. (Cast.)

Case XXVII.—A. F. L., male, aged 73. Carcinoma of hand; recurrence in axilla and chest wall. Twenty-three years before admission to the Skin and Cancer Hospital, in November, 1909, a small papillomatous nodule appeared on the dorsum of the left hand. For five years this received no treatment, then caustics were employed, and later X-rays were resorted to, without avail. When the patient entered the hospital the local condition was as shown in Fig. 37, and the chest wall and axilla were found to be involved in metastatic deposits. The forearm was amputated, the axillary space was cleared, and all diseased tissue of the chest wall removed.

At the present the patient is suffering from internal metastasis, which, however, unfortunate, is not as distressing for the patient or the family as is external cancer.

Case XXVIII.—E. M., female, aged 25. Papilloma of back. From irritation by corset the growth is beginning to undergo inflammatory change, which is a pre-cancerous stage of cancer. With continued irritation malignant degeneration is apt to follow. Fig. 38.

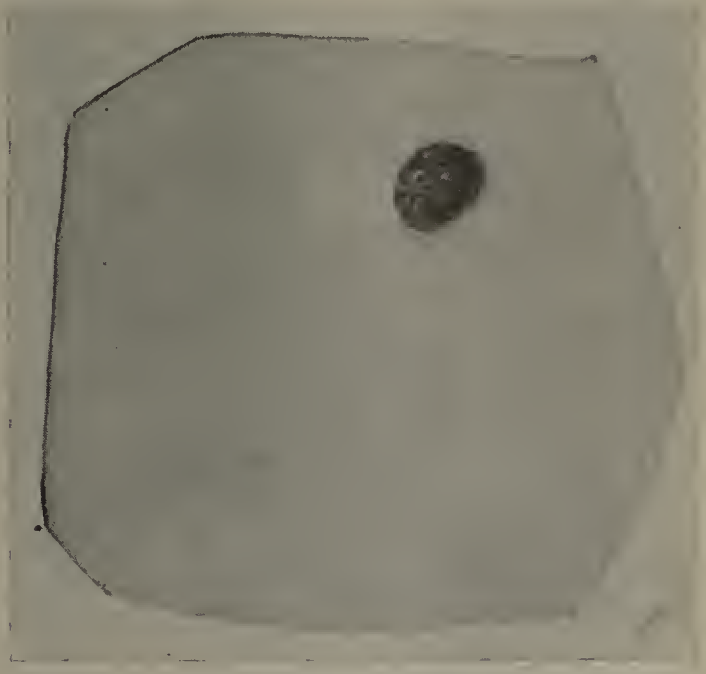

Fig. 38. E. M. Papilloma of back. (Cast.)

Case XXIX.—M. McG., female, aged 70. Epithelioma of left buttock; papilloma of right shoulder. This case represents the pre-cancerous (shoulder) stage, and the cancerous (buttock) actively growing stage in the same host. The epithelioma of the buttock began as an insignificant papilloma like the one on the shoulder, but being so situated that it was subjected to irritation it developed into the condition illustrated in Fig. 39. The small papilloma on the shoulder was not especially irritated and had not undergone degeneration. Both excised. Patient now in hospital.

Case XXX.—M. S., male, aged 22. Sarcoma of thigh and groin. From a starting point very much like a small mole the size of a pea, which remained so for years, then began to grow, recurrence took place on inner aspect of thigh and groin, as shown in Fig. 40. Seven months before admission patient was treated with Coley's Fluid preceding and following removal of secondary tumor from Scarpa's triangle. When first seen by us internal metastasis had occurred.

Multiple sarcomata of leg and groin removed. Patient died August 27, 1910.

---

Actual clinical experience, gained from the study of hundreds of cases similar to those presented above, has convinced us that a large proportion of severe and perhaps fatal malignant neoplasms may be traced to apparently insignificant and harmless warts, moles, nevi, scars, etc., which are subjected to irritation of one kind or another, and which are easily and completely removable by surgical means.

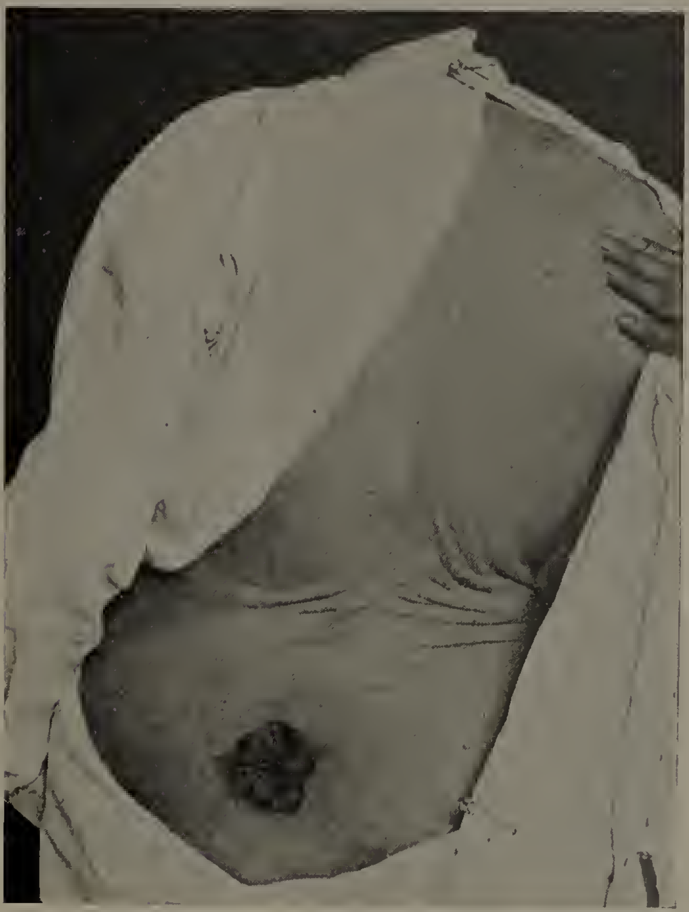

Fig. 39. M. McG. Epithelioma of left buttock and papilloma of right shoulder.

Rational attention, by physicians and laymen, to these seemingly inconsequent conditions would undoubtedly tend to lessen the proportion of cases of irremovable and inoperable, and consequently fatal, cancer.

In the light of our present knowledge concerning the initiation and progress of cancer, no patient should be denied the benefit of early and radical surgical removal.

Unfortunately, however, there are to be encountered some individuals in the various stages of the disease who absolutely refuse this form of treatment. In these cases, and in those so far advanced that surgery no longer holds hope of eradicating the disease, there is a legitimate field for experimentation. Such of the various new agencies and methods as seem to offer the least prospect of doing harm or of causing unnecessary suffering, while offering the greatest hope of effecting a cure or of ameliorating human suffering, may be employed in these cases.

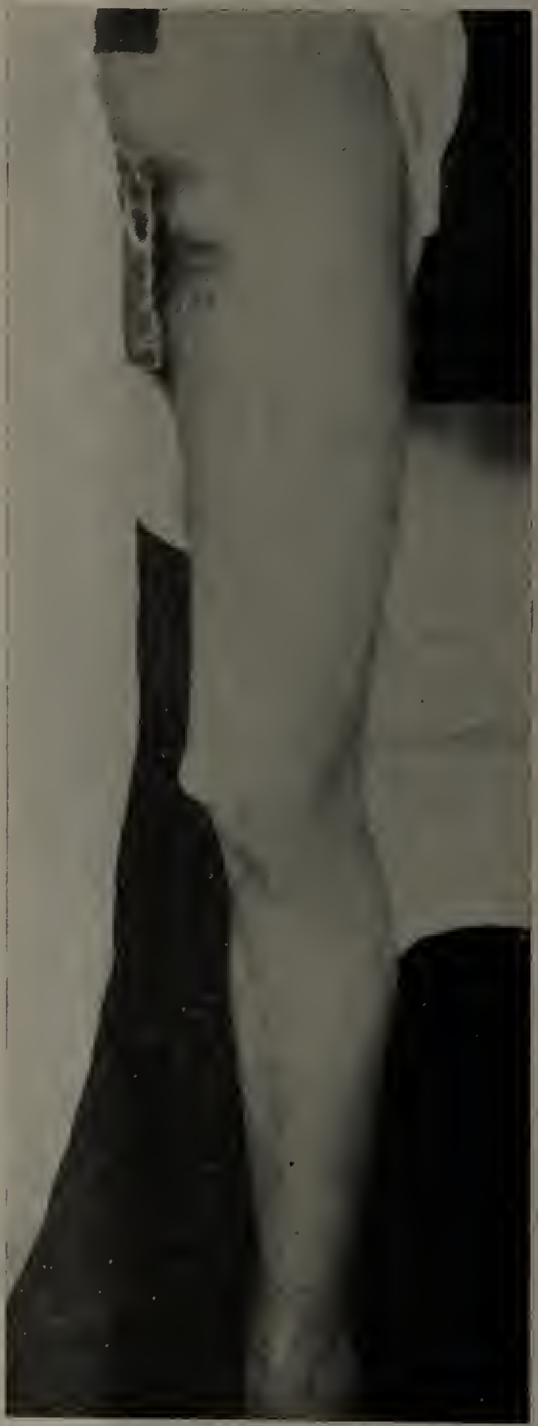

Fig. 40. M. S. Sarcoma of thigh and groin.